U.S. DEPT. OF AGRICULTURE. BUREAU OF PUBLIC ROADS.

Report of a survey of traffic on the federal-aid highway systems of eleven western states, 1930. 1932.

REPORT
OF A
SURVEY OF TRAFFIC
ON THE
FEDERAL-AID HIGHWAY SYSTEMS
OF
ELEVEN WESTERN STATES
1930

By

THE BUREAU OF PUBLIC ROADS
UNITED STATES DEPARTMENT OF AGRICULTURE
AND
THE HIGHWAY DEPARTMENTS
OF
ARIZONA, CALIFORNIA, COLORADO, IDAHO, NEBRASKA
NEW MEXICO, NEVADA, OREGON, UTAH
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FOREWORD

THIS report is a summary of the facts concerning traffic upon the Federal-aid highways of 11 western States obtained during the period September, 1929, to October, 1930. The work was conducted under cooperative research agreements between the Bureau of Public Roads of the United States Department of Agriculture and the highway departments of the several States.

In addition to the survey operations upon the Federal-aid routes, certain of the States requested the bureau to establish traffic stations upon a few highways of the State system. Less than 5 per cent of all stations operated were located upon State highways. Traffic data at all stations have been included in this report.

The investigation was undertaken in order to obtain essential facts about the present density, type, capacities, and distribution of traffic units as a basis for planning highway development to serve present and future traffic. A classification of highways is presented, based upon the foregoing data, upon present population and population trends, upon predicted future traffic and upon an economic and physical analysis of other factors affecting the planning of a program of highway improvement.

The highway traffic studies upon which the report is based were conducted under the joint supervision of Thomas H. MacDonald, Chief of the Bureau of Public Roads, and the following State highway officials: W. W. Lane, Arizona; C. H. Purcell, California; L. D. Blauvelt, Colorado; J. D. Wood, Idaho; A. T. Lobdell, Nebraska; W. C. Davidson, New Mexico; S. C. Durkee, Nevada; R. A. Klein, Oregon; Henry H. Blood, Utah; S. J. Humes, Washington; and Z. E. Sevison, Wyoming.

The data were analyzed and this report was prepared in the Division of Highway Transport of the Bureau of Public Roads, E. W. James, chief. The project was directly in charge of L. E. Peabody, senior highway economist, assisted by C. B. Bishop, H. E. Cunningham, E. H. Holmes, C. G. Morrison, D. O'Flaherty, and L. S. Tuttle, all of the Division of Highway Transport.

THE TRANSPORTATION SURVEY

THE area of the States cooperating in the Western States survey includes more than 37 per cent of the area of the United States and more than 35,000 miles of Federal-aid highway. The topographic conditions under which highway traffic moves in this area are illustrated by the relief map of the western half of the United States shown in Figure 1. There are high mountain ranges and large arid or semiarid areas. The winters are severe throughout much of the territory and a considerable area has intensely hot summers.

The Colorado River and its associated physiography form an effective and probably lasting barrier to free north and south traffic through several degrees of longitude. Mountain passes control the location of highways in a striking manner. In the entire distance between the Mexican and the Canadian borders, along a line composed of the southern and central Sierras and the northern Rockies, there are only five continental gateways. These are at Yuma, Needles, through Reno, Boise, and Spokane. This condition leads to a concentration of both long-distance and local east and west movements.

Highway traffic of to-day is predominately motor traffic. In 2 of the 11 States where horse-drawn vehicles were reported, motor traffic was more than 99 per cent of all traffic and no data with regard to horse-drawn traffic will be presented in this report. Trailers were drawn by approximately 0.8 per cent of all motor vehicles and data with regard to them have also been omitted. Motor busses represent a special form of traffic and, while of varying importance in sections of the area, in point of volume, busses constitute less than 1 per cent of total traffic. Data for motor busses are confined to a tabular statement of the average daily density. These data, together with density of passenger cars, light and heavy trucks, total motor vehicles, forecasts of total motor traffic for 1935 and 1940, maximum daily and winter average 1930, are tabulated in the appendix for each route at each point of observation. Passenger-car traffic averages 88 per cent of the total volume, varying from 84 per cent in Utah to 90 per cent in Arizona. Trucks average approximately 11 per cent of all motor traffic in the whole area.

The influence of topography and climate upon traffic is clearly indicated in the series of traffic-flow maps (pls. 1 to 13 in envelope distributed with report), which present the average 24-hour use of the highways in individual States and in the area as a whole. The 899 points at which traffic data were secured are shown in Figure 2.

The wide variations in traffic volume among routes, States, or sections of this area are represented in the traffic-flow maps by the varying width of blue line. In addition these maps carry a forecast of 1935 traffic, data on population density per square mile in 1930, and the increases or decreases in population during the period 1920 to 1930.

Traffic density varies from the averages of the flow maps on particular days, or during the various seasons of the year, and is abnormally high at times of fairs, football games, or other sporting events. Aside from such abnormal movements, traffic density reaches its normal maximum during August in all States except Arizona, where the heaviest travel is in March, and in Utah, where September in the month of maximum

HEAVY TRAFFIC ON CALIFORNIA 60 NORTH OF SANTA MONICA CANYON IN LOS ANGELES COUNTY

traffic. A more valuable picture of the variation by seasons of the year, and one which does not accentuate the extremes, is given by the ratio of the average traffic during the six months of heaviest travel and the six months of lightest travel. These periods are not the same in all States, but they coincide approximately with the summer and winter months. These ratios of summer to winter traffic are presented by States for passenger cars and trucks separately in Figures 3 and 4. These data bring out very sharply the effect of climatic differences upon traffic flow; for example, Arizona's passenger-car traffic varies but 7 per cent between winter and summer, while Wyoming's severe winters are reflected in an 89 per cent variation between the two seasons. For truck traffic the figures are somewhat similar, although the comparison of truck traffic at different seasons is seriously affected by the presence or absence of large population centers or industrial areas. Truck traffic is less responsive than passenger traffic to seasonal changes. The extreme variation is best illustrated by Wyoming passenger-car traffic, which shows an increase of 247 per cent from January to August.

U. S. Highway 87 north of Moran, Wyo., illustrates the effect of winter conditions upon traffic flow. Here the average daily density for the winter season is but 8 per cent of that for the entire year. The flow of traffic into Yellowstone Park during the summer months tends to raise the yearly average and proportionately depress the winter average. U. S. Highway 50 south of Glenbrook, Nev., and U. S. 191 north of Trude, Idaho are other examples. On U. S. 10 north of Virden, Wash., the winter ratio is but 25 per cent of the yearly average, due to winter traffic avoiding Blewett Pass. U. S. 40

FIGURE 1.—RELIEF MAP OF WESTERN STATES

north of Kremmling, Colo., leads to Rabbit Ears Pass, which is closed by snow during most of the winter months and has a low winter average. Similiar conditions are found on U. S. 566 west of Carrizozo, N. Mex., and U. S. 89, north of Jacob's Lake, Ariz.

In portions of the Southern States, the situation is reversed and average winter traffic exceeds the annual average by as much as 26 per cent. This is particularly true of California, the objective of many winter travelers. Other causes than tourist traffic may produce a high winter average. For example, on U. S. 180 east of Silver City, N. Mex., truck traffic to copper mines tends to keep the winter average high, while on U. S. 99 north of Burlington, Wash., the relatively high winter average is probably because the optional route to Bellingham is not suitable for winter traffic; a beet-sugar factory on U. S. 85 south of Torrington, Wyo., greatly increases the early winter traffic.

Passenger-car traffic is greater upon Sunday than upon any other day of the week in all States, while truck

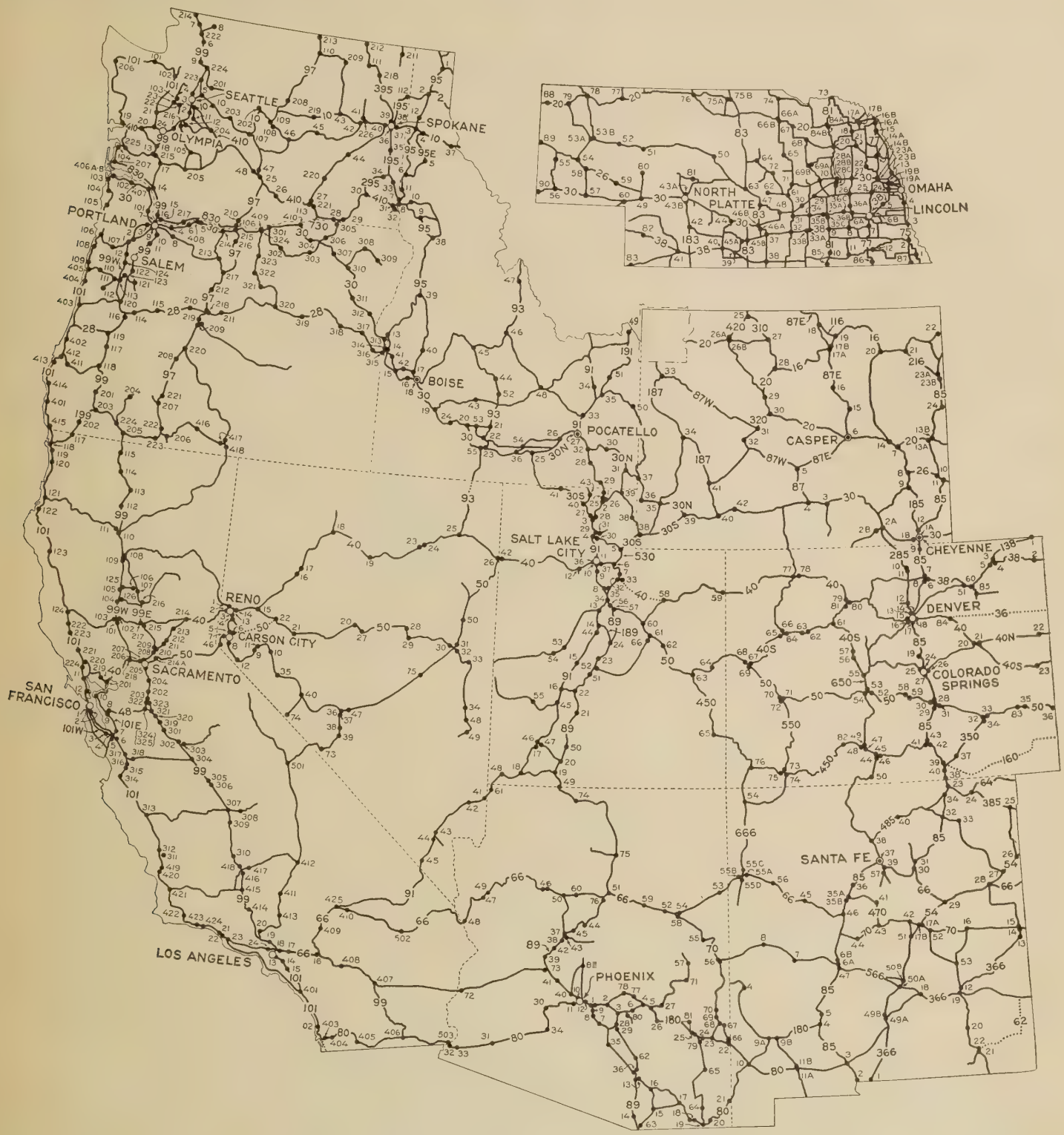

FIGURE 2.—LOCATION OF TRAFFIC SURVEY STATIONS

traffic is less upon Sunday in every State. The ratios of Sunday to average week-day traffic are shown for passenger cars and trucks in Figures 5 and 6. Highways carrying over 1,500 motor vehicles per day, total more than 3,000 miles, and the greatest mileage of such roads is found in the Pacific Coast States. U. S. 99 is continuously above 1,500 motor vehicles per day from Indio to Sacramento and from Eugene, Ore., to Ferndale Wash., or more than two-thirds of its entire length. Approximately one-half the mileage of U. S. 101 between San Diego and Healdsburg, Calif., and a few short sections on other routes near cities carry 1,500 or more motor vehicles per day.

Colorado has more than 300 miles of highway with a density of 1,500 or more motor vehicles per day, the mileage being distributed over sections of several routes—U. S. 85, Pueblo to Greely; U. S. 50, La Junta to Pueblo; and U. S. 285, Denver to Fort Collins. These sections form a continuous route with traffic of this volume from La Junta to Greeley via Denver and from Denver to Fort Collins.

With the exception of a section from Provo to Brigham, Utah, 104 miles in length, and a few short sections near the cities of Arizona, Idaho, Nebraska, Nevada, and New Mexico, the remainder of the mileage carries less than 1,500 motor vehicles per day.

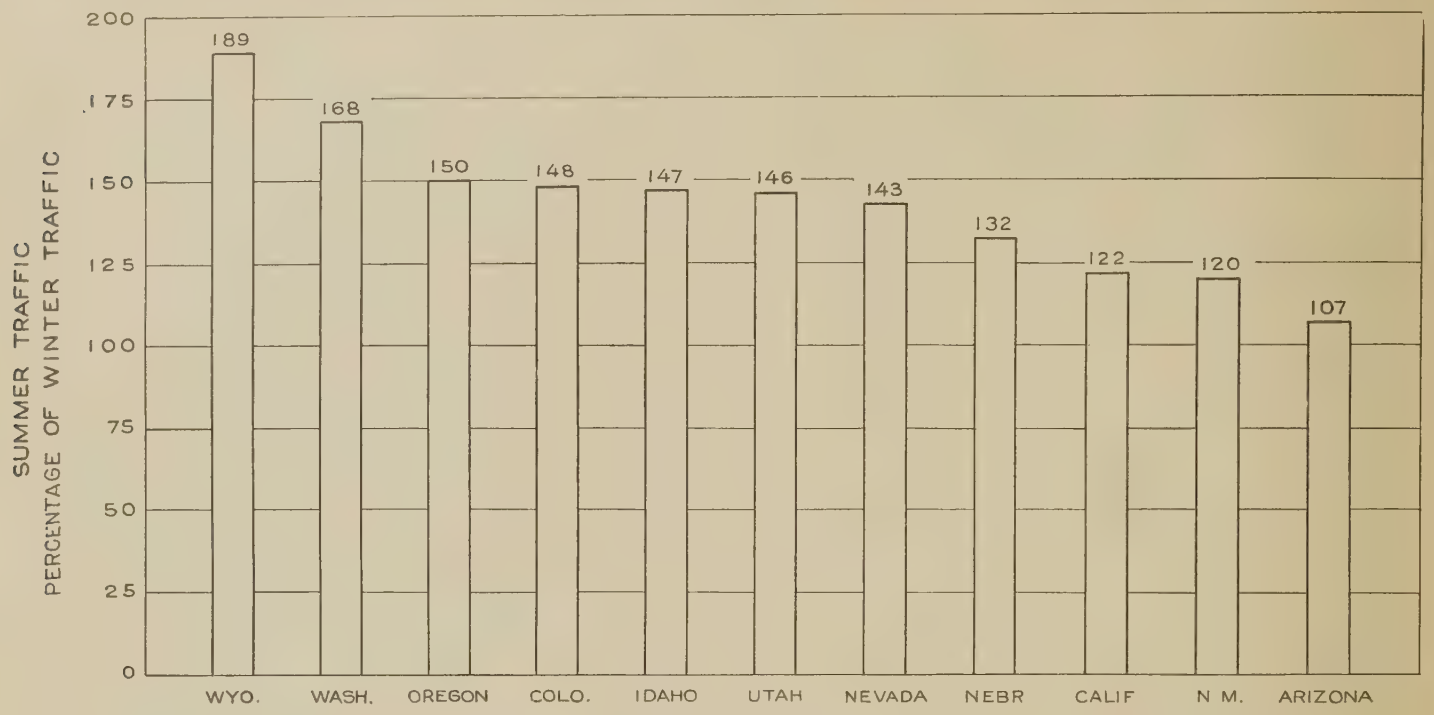

FIGURE 3.—SUMMER PASSENGER-CAR TRAFFIC AS A PERCENTAGE OF WINTER PASSENGER-CAR TRAFFIC

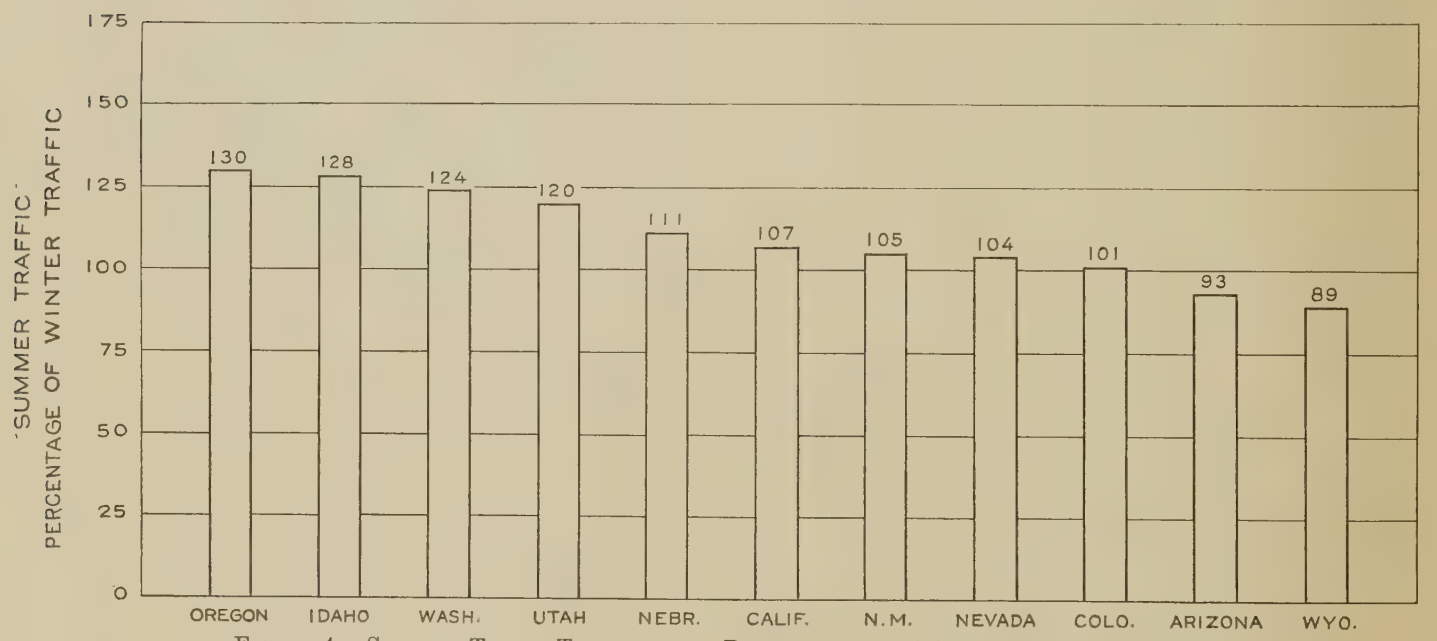

FIGURE 4.—SUMMER TRUCK TRAFFIC AS A PERCENTAGE OF WINTER TRUCK TRAFFIC

The mileage with an average traffic of from 500 to 1,500 motor vehicles per day is heaviest in Nebraska, with California, Washington, and Oregon next in order. U. S. 99 from its southern terminus at El Centro, Calif. to the Canadian border has no point at which traffic is below 500 motor vehicles per day. This, together with the fact that most of its length carries more than 1,500 motor vehicles per day, marks it as the most important traffic route in the whole area. In general, the sections of routes with 500 to 1,500 motor vehicles per day are in the vicinity of the smaller cities or between two such cities.

FOREIGN TRAFFIC

Foreign traffic represents travel of vehicles registered outside of the State in which observed. The percentage of foreign traffic within each State is given in Table 1. These percentages are the ratio of foreign vehicle mileage to total vehicle mileage. It should be noted that a small percentage does not necessarily indicate a small volume of foreign traffic. The average daily flow of foreign traffic for all States is shown graphically in Figure 7. Again U. S. 99 has the heaviest density. From the California-Oregon line to Everett, Wash., this route carries not less than 350 foreign vehicles per day at every point. U. S. 80, from Holtville, Calif., to Florence Junction, Ariz., and from Lordsburg, N. Mex., to the New Mexico-Texas border, is also a favorite route for tourists, with an average density of more than 250 foreign vehicles per day. Between Florence Junction and Lordsburg foreign traffic uses both U. S. 180—the direct route between these points—and U. S. 80.

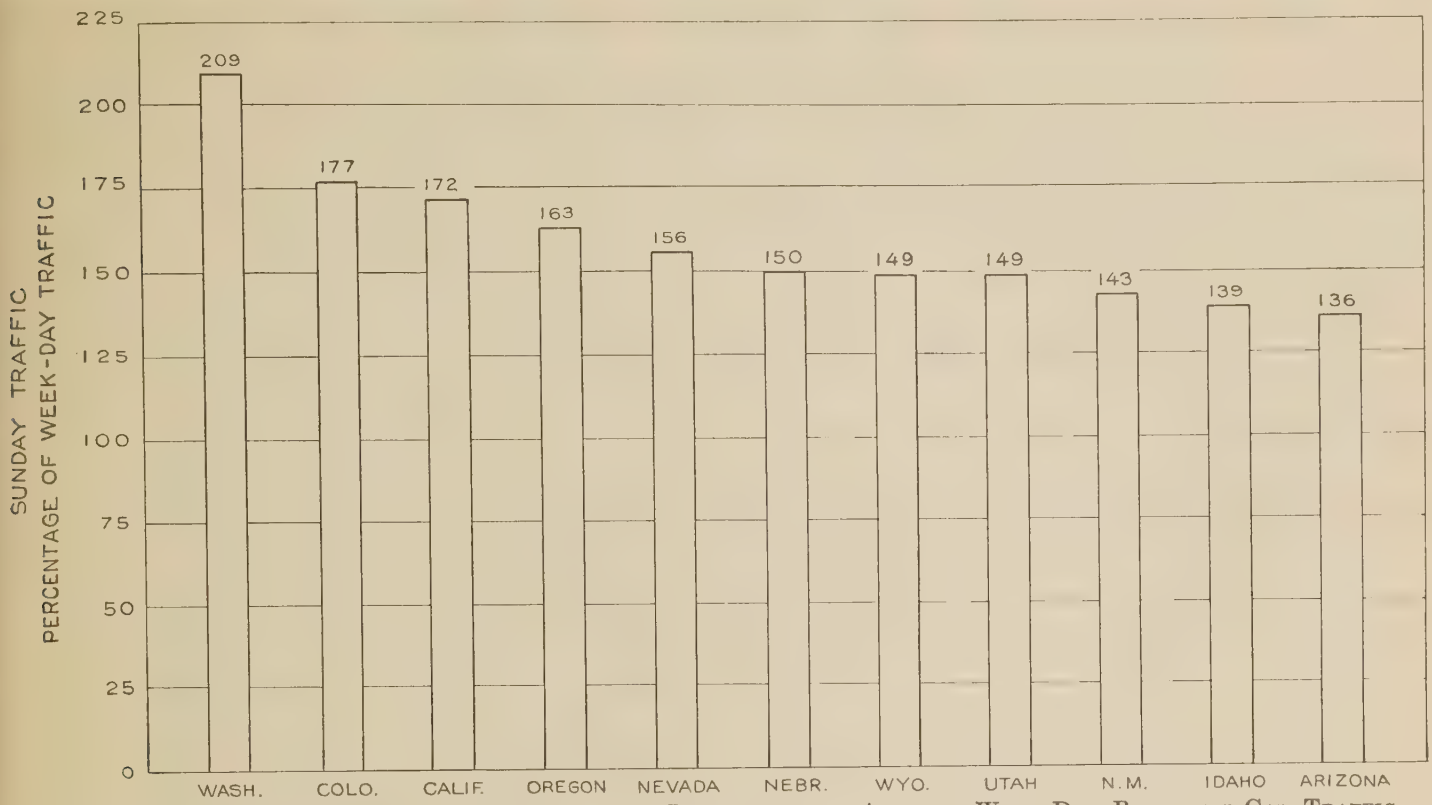

FIGURE 5.—SUNDAY PASSENGER-CAR TRAFFIC AS A PERCENTAGE OF AVERAGE WEEK-DAY PASSENGER-CAR TRAFFIC

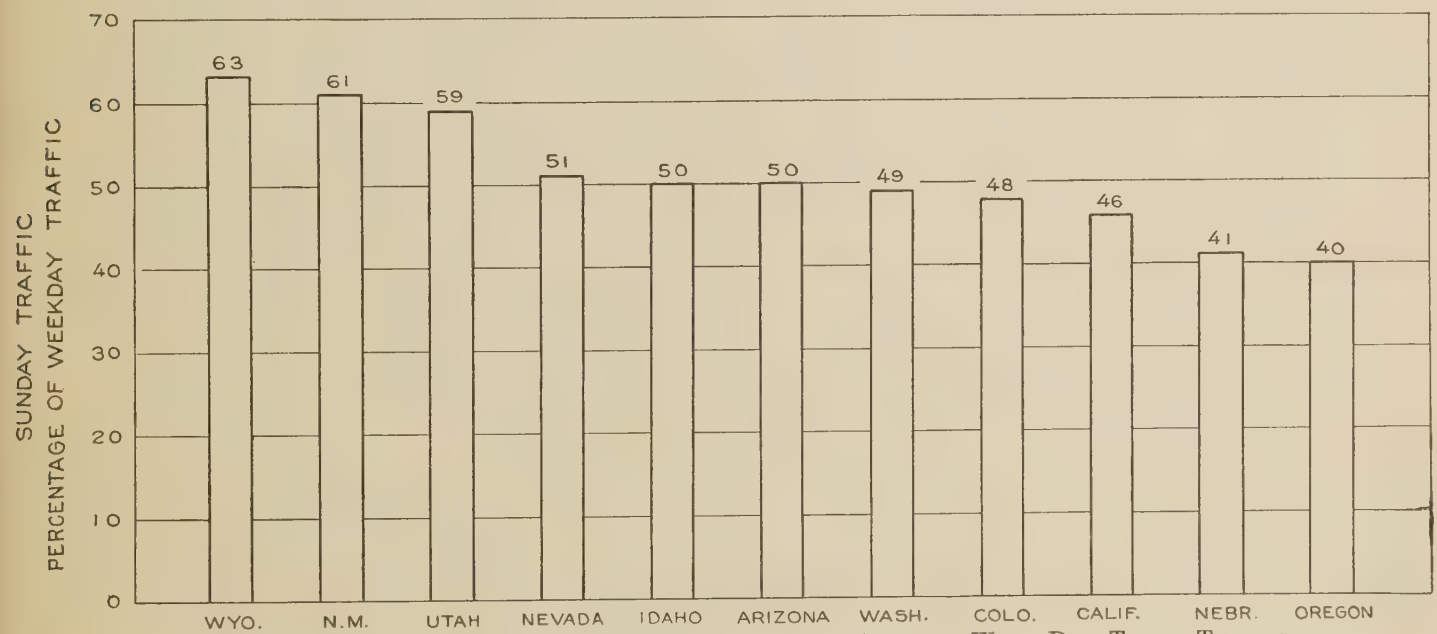

FIGURE 6.—SUNDAY TRUCK TRAFFIC AS A PERCENTAGE OF AVERAGE WEEK-DAY TRUCK TRAFFIC

U. S. 180 carries most of the foreign traffic, with a density exceeding 200 per day at all points except upon a short section near Duncan, Ariz.

A comparison of the traffic-flow map of the 11 States with the foreign traffic-flow map produces some interesting contrasts. On U. S. 80 at the California-Arizona line, the volume of foreign traffic on the Arizona side is half again as large as that upon the California side, because of the large number of cars from the latter State traveling to Yuma. Still more noticeable are the changes in volume of foreign traffic on U. S. 99 as it passes the California-Oregon and Oregon-Washington boundaries. At the California-Oregon line local traffic from California to Ashland and Grants Pass increases the volume of foreign traffic in Oregon to approxi-

TABLE 1.—*Average daily foreign traffic expressed in vehicle-miles and as a percentage of total traffic*

State	Average daily foreign traffic	Foreign traffic as percentage of total traffic observed in State	State	Average daily foreign traffic	Foreign traffic as percentage of total traffic observed in State
	Vehicle-miles	*Per cent*		*Vehicle-miles*	*Per cent*
Arizona	347,000	38.5	New Mexico	405,000	37.6
California	412,000	4.9	Oregon	434,000	22.1
Colorado	331,000	14.9	Utah	116,000	14.3
Idaho	220,000	22.4	Washington	358,000	11.4
Nebraska	303,000	12.7	Wyoming	239,000	28.5
Nevada	90,000	31.0			

FIGURE 7.—AVERAGE DAILY FOREIGN TRAFFIC IN THE STATES OF THE SURVEY. WIDTH OF LINE INDICATES TRAFFIC DENSITY

mately twice that in California, while at the Oregon-Washington line local traffic from Vancouver, Wash., to Portland, Oreg., produces a foreign density in Oregon more than three times as great as that in Washington. This latter difference and the differences in the immediate vicinity of the Oregon-Idaho border near Weiser and Ontario, Idaho, are not shown upon the map. The sections involved are short in length and large in width, and to show them would so distort the map as to blot out other important data.

HIGHWAY UTILIZATION

THE daily vehicle utilization of the Federal-aid highway system in the various States is tabulated in Table 2. The table shows the average daily vehicle-miles of all vehicles, and separately those of foreign vehicles and of trucks. During the period of the survey—September, 1929, to October, 1930—the average daily utilization by all vehicles of 33,000 miles of the Federal-aid system upon which observations were taken was approximately 23,062,000 vehicle-miles or for the year's period the total vehicle mileage is approximately 8,400,000,000 vehicle-miles. Of this total 7,500,000,000 are passenger car-miles, and 900,000,000 are truck-miles. Approximately 15 per cent of the total, or 1,200,000,000 vehicle-miles represents travel by foreign vehicles.

The total vehicle-miles in any State is of value in considering the general degree of usage, but more important is the fact that the greatest proportion of the total vehicle mileage is the result of a concentration of vehicles in a few States or areas, and is not characterized by an even distribution of traffic throughout the whole Federal-aid system.

California, with 36.6 per cent of the total daily vehicle mileage, has by far the greatest highway usage of the 11 States. Next in order come Washington, Nebraska, Colorado, and Oregon. These five States, with 56.1 per cent of the total Federal-aid mileage, have 78.7 per cent of the total daily vehicle mileage in all the States. Five of the remaining six States—Arizona, Idaho, New Mexico, Utah, and Wyoming—have an approximately equal total daily vehicle mileage, ranging from 810,000 in Utah to 1,077,000 in New Mexico. The utilization of the Federal-aid system in Nevada is considerably less than that in any other State. While the Federal-aid mileage in Nevada is 4.6 per cent of the Federal-aid mileage in the 11 States of the survey, the daily vehicle mileage in Nevada, 290,000, represents only 1.2 per cent of the daily vehicle mileage in all the States.

Since the computed daily vehicle mileage on the Federal-aid system in any one State is dependent upon the amount of traffic and the number of miles in that system, a better measure of intensity of usage and the relative service value of the system in each State is the average daily vehicle density. On this basis the greatest intensity of usage is in California and Washington, with an average daily density of 1,775 and 1,095 respectively (Table 2); Colorado and Oregon are next with

ON U. S. 80 IN ARIZONA

TABLE 2.—*Daily vehicle-miles of passenger vehicles and trucks and average daily density of traffic*

State	Passenger vehicles	Trucks	All vehicles	Average daily density [1]			
				Foreign vehicles	Passenger vehicles	Trucks	Passenger vehicles and trucks
	Thousands of vehicle-miles	*Thousands of vehicle-miles*	*Thousands of vehicle-miles*	*Number*	*Number*	*Number*	*Number*
Arizona	827	73	900	188	448	40	488
California	7,572	858	8,430	87	1,594	181	1,775
Colorado	1,953	268	2,221	106	625	86	711
Idaho	873	109	982	79	314	39	353
Nebraska	2,171	225	2,396	62	446	46	492
Nevada	260	30	290	59	169	20	189
New Mexico	946	131	1,077	120	279	39	318
Oregon	1,799	170	1,969	145	599	57	656
Utah	692	118	810	67	401	68	469
Washington	2,829	320	3,149	124	984	111	1,095
Wyoming	742	96	838	72	225	29	254
Total or average	20,664	2,398	23,062	98	623	72	695

[1] Computed on basis of mileage used in classifying Federal-aid routes.

Since the computed daily vehicle mileage on the Federal-aid system in any one State is dependent upon the amount of traffic and the number of miles in that system, a better measure of intensity of usage and the relative service value of the system in each State is the average daily vehicle density. On this basis the greatest intensity of usage is in California and Washington, with an average daily density of 1,775 and 1,095 respectively (Table 2); Colorado and Oregon are next with

711 and 656 respectively. In Arizona, Nebraska, and Utah there is a great degree of similarity in the intensity of usage and also in Idaho and New Mexico, the average daily density ranging from 318 in New Mexico to 488 in Arizona; while the least intensity of usage is in Nevada and Wyoming, with 189 and 254, respectively.

Not only is there a notably heavier traffic in some States than in others, but within States the tendency is toward a concentration of traffic on a comparatively small portion of the total mileage. This tendency is clearly recognizable in a study of the traffic-flow maps of the various States. The most important traffic route in Utah is that section of U. S. Highway 91 extending from Springville, via Salt Lake City, Ogden, and Brigham, to Logan. This section, exclusive of city mileage, is 114 miles in length, or 6.6 per cent of the Federal-aid mileage, and yet it has more than 40 per cent of the total vehicle mileage in Utah and more than 40 per cent of the truck mileage. In Nevada 64 miles of the Federal-aid system near Reno, constituting 4.2 per cent of the total in the State, has 25 per cent of the State's total vehicle mileage and about 17 per cent of the truck mileage.

The utilization of the Federal-aid system by trucks in all States as measured in vehicle-miles is 10.4 per cent of that of all vehicles, and ranges from 8.1 per cent of the total vehicle-miles in Arizona to 14.5 per cent in Utah. The intensity of usage as measured by average daily density of trucks bears very nearly the same relation between States as does that of total vehicles.

The greatest usage of the Federal-aid system by foreign vehicles is in Oregon, with 434,000 vehicle-miles per day. The second largest vehicle mileage by foreign vehicles is in California, 411,600 per day. When considered as a percentage of the total daily vehicle mileage of the State, however, California shows the least relative usage of the system by foreign vehicles, foreign traffic forming only 4.9 per cent of the total daily vehicle mileage. In all other States the relative importance of foreign traffic is much greater. In Arizona foreign vehicle mileage represents 38.5 per cent of the total and in New Mexico and Nevada it represents 37.6 per cent and 31.0 per cent, respectively. In Idaho, Oregon, and Wyoming foreign traffic forms a considerable proportion of the total.

Where foreign traffic is such a large proportion of the total traffic, the origin of this traffic is of considerable interest. Table 3 is a statement of the origin of foreign traffic, measured in daily vehicle-miles, for each State of the survey. The relative exchange of traffic between any two States of the survey and the most important areas of origin are indicated. The table shows, for example, that vehicles of California registration are responsible for 151,500 daily vehicle-miles in Arizona, while vehicles of Arizona registration account for only 17,700 daily vehicle-miles in California. In other words, the travel of California vehicles in Arizona is about 8.5 times that of Arizona traffic in California. Similarly, 175,500 daily vehicle-miles in Oregon are generated by California vehicles, while only 39 per cent of that amount, or 68,300 daily vehicle-miles, are generated in California by Oregon vehicles.

The two States producing the largest volume of traffic are California and Washington. California vehicles account for 692,400 vehicle-miles in the other States of the survey, more than twice that of any other State, and travel by California vehicles is of importance in every State of the survey. Washington vehicles account for a total of 316,500 daily vehicle-miles in the other States of the survey, representing principally a movement into the near-by States of Oregon, Idaho, and California. Traffic originating in the other States is largely restricted to interchange of traffic between adjoining States. In the case of adjoining States, however, the interchange of traffic is largely dependent upon the condition of the highway connections and the proximity of centers of population.

TABLE 3.—*Daily vehicle-miles of foreign vehicles in the States of the survey classified according to origin of vehicles*

Vehicles registered in—	Daily vehicle-miles in—											
	Arizona	California	Colorado	Idaho	Nebraska	Nevada	New Mexico	Oregon	Utah	Washington	Wyoming	Total
Arizona		17,700	4,000	1,300	1,200	2,000	18,600	2,600	2,800	1,100	900	52,200
California	151,500		40,700	25,100	24,000	52,000	75,800	175,500	39,500	89,400	18,900	692,400
Colorado	20,800	19,300		7,500	34,900	3,200	54,700	4,400	9,800	2,800	49,700	207,100
Idaho	1,400	9,900	2,600		2,400	2,500	400	32,200	17,000	43,300	3,300	115,000
Nebraska	4,500	5,800	33,100	3,500		700	5,700	2,600	1,700	1,800	30,600	90,000
Nevada	1,700	13,200	700	2,000	600		400	1,700	3,800	1,100	700	25,900
New Mexico	11,400	3,300	9,600	400	600	400		400	400	1,100	1,000	28,600
Oregon	2,800	68,300	2,000	24,600	2,100	1,400	1,600		2,200	128,800	2,900	236,700
Utah	3,500	8,600	5,600	40,400	1,200	9,700	800	3,000		2,800	6,000	81,600
Washington	4,100	76,600	2,600	58,700	4,600	1,100	2,000	156,800	3,800		6,200	316,500
Wyoming	1,700	3,300	19,900	5,500	12,700	1,100	2,400	1,300	5,400	1,100		54,400
Central Plains States [1]	72,800	65,800	141,700	27,100	157,200	6,900	181,500	22,200	12,600	24,300	70,300	782,400
Total west of Mississippi River [1]	276,200	291,800	262,500	196,100	241,500	81,000	343,900	402,700	99,000	297,600	190,500	2,682,800
Northeastern States [1]	56,100	86,000	56,600	16,900	54,600	7,500	48,600	17,800	13,000	20,400	41,600	419,100
Southeastern States [1]	8,000	9,500	6,600	1,800	3,400	800	7,300	2,600	1,500	2,500	3,100	47,100
New England States [1]	4,200	7,800	3,700	1,300	2,700	800	3,700	1,700	1,400	1,800	2,400	31,500
Total east of Mississippi River	68,300	103,300	66,900	20,000	60,700	9,100	59,600	22,100	15,900	24,700	47,100	497,700
Other countries:												
Canada	1,000	9,500	1,300	3,300	900	100	800	8,700	500	34,700	1,000	61,800
Mexico	700	400					400					1,500
Miscellaneous	400	6,600	300	400	300		400	900	300	700	400	10,700
Total	2,100	16,500	1,600	3,700	1,200	100	1,600	9,600	800	35,400	1,400	74,000
Total foreign (States and countries)	346,600	411,600	331,000	219,800	303,400	90,200	405,100	434,400	115,700	357,700	239,000	3,254,500
Total local	552,900	8,018,400	1,890,300	762,100	2,092,500	200,300	671,500	1,534,500	694,700	2,791,200	599,500	19,807,900
Grand total	899,500	8,430,000	2,221,300	981,900	2,395,900	290,500	1,076,600	1,968,900	810,400	3,148,900	838,500	23,062,400

[1] See map on pp. 41 and 42

Between Arizona and Nevada there is no direct highway connection, and it is necessary in traveling from one to the other to pass through Utah or through California. Hence the amount of interstate travel between these two States is negligible, Arizona vehicles accounting for but 2,000 daily vehicle-miles in Nevada and Nevada vehicles accounting for only 1,700 daily vehicle-miles in Arizona. A like situation exists between Arizona and Utah. While a direct highway connection is provided by U. S. 89 running north from Flagstaff, via Lees Ferry and Fredonia, affording communication with the towns of southern Utah and ultimately with Salt Lake City, the highway was not in good condition in Arizona, and there was comparatively little interchange of highway traffic between the two States beyond an "over-the-line" movement between Kanab in Utah and Fredonia in Arizona. Vehicles of Utah registration are responsible for only 3,500 daily vehicle-miles in Arizona and Arizona vehicles for only 2,800 daily vehicle-miles in Utah. With the completion of the connections to Lees Ferry Bridge across the Grand Canyon on this route, traffic between the two States will be stimulated somewhat, especially by tourist travel. The distance between Phoenix, Ariz., and Salt Lake City, Utah, is too great to justify a prediction of heavy traffic. It is easier and more convenient for communication and commerce to establish itself between Salt Lake City and the cities of northern Utah and the cities of southern Idaho, and similarly between El Centro and southern California and Yuma and Phoenix in Arizona.

Important connecting routes between States, indicated on the traffic-flow maps, are given a definite value when the interchange of traffic between such States is expressed in daily vehicle-miles. In the Pacific Coast States there is evidence of considerable interstate traffic between Washington, Oregon, and California and between Washington, Oregon, and Idaho. The principal sources of foreign traffic in Washington, in order of importance, are Oregon, California, and Idaho. Traffic between Washington and Oregon is the result of the close proximity of Portland, Oreg., and the densely populated region near Portland to the important Washington cities of Seattle and Olympia. Of Washington's foreign traffic 128,800 daily vehicle-miles represent travel by Oregon vehicles, while Washington vehicles account for 156,800 daily vehicle-miles in Oregon. The considerable exchange of traffic between California and Washington throws a heavy north and south movement on U. S. 99. The daily vehicle-mileage in Washington of California vehicles is 89,400, while that of Washington vehicles in California is 76,600.

The movement of vehicles between Idaho and Washington and Oregon is of secondary importance. Washington vehicles account for 58,700 daily vehicle-miles in Idaho, while Oregon vehicles account for 24,600 in Idaho. These two States together contribute more traffic to Idaho than Idaho does to them. Idaho vehicles account for only 43,300 daily vehicle-miles in Washington and 32,200 in Oregon.

Traffic from Utah in Idaho is considerable. Vehicles of Utah registration account for 40,400 daily vehicle-miles in Idaho, reflecting the movement of vehicles into Idaho from Salt Lake City and northern Utah. The traffic between Idaho and Utah originates largely in Utah, the daily vehicle-mileage of Utah vehicles in Idaho being nearly two and one-half times that of Idaho vehicles in Utah. Of greater consequence to Utah is the movement of California vehicles over U. S. 91 from southern California and that over U. S. 40 from northern California, California vehicles originating 39,500 daily vehicle-miles in Utah.

Most of the foreign traffic in California originates in adjoining or near-by States. The most important sources are Washington and Oregon. Oregon contributes 68,300 daily vehicle-miles to California, while California contributes more than twice that amount, 175,500, to Oregon. In every case California contributes more traffic to the other States of the survey than it receives. Commercial traffic between the San Francisco area and Reno, Nev., and recreational traffic to Lake Tahoe is reflected by 52,000 daily vehicle-miles of California vehicles in Nevada and 13,200 daily vehicle-miles in California from Nevada.

A Surface of Disintegrated Granite Near Denver

Nevada, with a small population and motor-vehicle registration, accounts for little traffic in any other State, its position being that of a "crossover" State. California traffic in Nevada is nearly four times as much as Nevada traffic in California, while Utah traffic in Nevada is more than two and one-half times larger than Nevada traffic in Utah. Interstate traffic in Nevada is almost entirely an east-and-west movement. Because of the physiography and the consequent absence of suitable highway connections, and the great distances between traffic producing areas, there is a negligible movement north and south between Nevada and any of the neighboring States of Oregon, Idaho, or Arizona.

For similar reasons, there is a noticeable lack of intercommunication east and west between the central block of States, consisting of Idaho, Utah, and Arizona, and the immediately adjacent States to the east, Wyoming, Colorado, and New Mexico. Although there are several excellent highway connections, the Rocky Mountains, running north and south through the central and westerly portions of Wyoming, Colorado, and New Mexico, form a great unproductive and sparsely settled band between these States and Idaho, Utah, and Arizona. By far the greatest portion of the population in Wyoming, Colorado, and New Mexico is concentrated in the fertile section lying east of the Rockies. Intercommunication between these areas of population naturally results in a north-and-south flow of traffic, and in an interchange of traffic with the central plains group. Of the three easterly States, Wyoming, Colorado, and New Mexico, Colorado is most important as a traffic-producing State. Colorado traffic in Wyoming is about two and one-half times that of Wyoming traffic in Colorado, while Colorado traffic in New Mexico is nearly six times as large as New Mexico traffic in Colorado. Traffic between Colorado and Wyoming is very largely communication between Denver and Greeley in Colorado and Cheyenne and Laramie in Wyoming, by way of

U.S. 85 and U.S. 285. Vehicles of Colorado registration account for 49,700 daily vehicle-miles in Wyoming, while Wyoming vehicles travel 19,900 daily vehicle-miles in Colorado. The travel of Colorado vehicles in New Mexico of 54,700 daily vehicle-miles, is slightly more than in Wyoming, but travel of New Mexico vehicles in Colorado is 9,600 daily vehicle-miles, or less than one-half that of Wyoming vehicles.

In the case of Nebraska, the most easterly State of the survey, the only States of the survey which are of importance as contributors of traffic are Colorado, California, and Wyoming. Colorado vehicles account for 34,900 daily vehicle-miles in Nebraska and Colorado receives 33,100 daily vehicle-miles from Nebraska. California, although considerably removed, contributes 24,000 daily vehicle-miles in Nebraska, more than four times as much as Nebraska vehicles travel in California. Wyoming, while receiving 30,600 daily vehicle-miles from Nebraska, contributes but 12,700 daily vehicle-miles to Nebraska.

THE CONVENIENCE OF TRAFFIC IS NOT LOST SIGHT OF BY OREGON DURING THE CONSTRUCTION OF A BITUMINOUS SURFACE. PERIODS ARE DESIGNATED WHEN TRAFFIC CAN MOVE IN A GIVEN DIRECTION AND A PILOT CAR GUIDES THE VEHICLES THROUGH IN GROUPS

Since the center of population in Nebraska is in the eastern part of the State, near Omaha and Lincoln, it is natural that the principal States contributing foreign traffic should be in the Central Plains States. The States in this area contribute 157,200 vehicle-miles to Nebraska, principally from Iowa and Kansas. (See Table 4.) Iowa contributes 54,600 and Kansas 40,400 daily vehicle-miles. Next in order are Missouri, South Dakota, and Minnesota, with 17,600, 16,700, and 10,900 daily vehicle-miles, respectively.

Traffic in the survey States from outside the area of the survey was contributed in largest quantity by the central plains group of States and the northeastern group (Table 3 and figs. 15 and 24), the southeastern group and the New England group being of secondary importance in all cases. The northeastern group and the central plains group are of particular significance as contributors of traffic to the easterly States of the survey, Wyoming, Nebraska, Colorado, and New Mexico, and to Arizona and California. Table 4 shows in detail the daily vehicle mileage of this last-mentioned traffic.

TABLE 4.—*Daily vehicles-miles of vehicles registered in Central Plains States and Northeastern States, in States where traffic from these areas is significant*

TRAFFIC OF VEHICLES REGISTERED IN CENTRAL PLAINS STATES

Vehicles registered in—	Daily vehicle-miles in—						Total
	Arizona	California	Colorado	Nebraska	New Mexico	Wyoming	
Arkansas	2,100	1,200	2,000	900	2,400	200	8,800
Iowa	6,600	9,000	11,600	54,600	6,500	10,100	98,400
Kansas	8,700	8,200	52,000	40,400	15,800	6,900	132,000
Louisiana	1,000	1,600	1,000	0	1,600	200	5,400
Minnesota	4,900	8,200	3,600	10,900	4,100	7,200	38,900
Missouri	7,300	6,600	20,200	17,600	8,500	4,800	65,000
Montana	1,400	5,800	2,300	3,000	800	17,900	31,200
North Dakota	1,000	2,100	1,000	2,400	800	2,400	9,700
Oklahoma	10,400	6,200	19,900	5,800	23,500	3,400	69,200
South Dakota	1,700	2,900	2,600	16,700	2,000	13,400	39,300
Texas	27,700	14,000	25,500	4,900	115,500	3,800	191,400
Total	72,800	65,800	141,700	157,200	181,500	70,300	689,300

TRAFFIC OF VEHICLES REGISTERED IN NORTHEASTERN STATES

Delaware	0	400	0	0	0	200	600
District of Columbia	700	2,900	1,000	600	800	700	6,700
Indiana	5,500	6,200	6,300	4,200	5,300	3,600	31,100
Illinois	14,500	19,800	19,500	22,800	12,600	12,200	101,400
Maryland	700	1,200	700	300	400	200	3,500
Michigan	9,300	11,100	7,000	6,700	6,900	5,300	46,300
New Jersey	2,400	4,900	1,300	1,200	1,600	1,700	13,100
New York	6,600	14,800	5,600	4,500	6,100	5,000	42,600
Ohio	8,700	11,500	7,600	5,800	8,100	4,800	46,500
Pennsylvania	4,200	7,000	4,300	3,000	4,000	3,400	25,900
Wisconsin	3,500	6,200	3,300	5,500	2,800	4,500	25,800
Total	56,100	86,000	56,600	54,600	48,600	41,600	343,500

The traffic from the central plains group in Nebraska has already been discussed. In Wyoming, the conspicuous contributing States of this area, are Montana, Iowa, and South Dakota. In Colorado, Kansas contributes the largest daily vehicle mileage, 52,000, and traffic from Missouri, Oklahoma, and Texas is also large. In New Mexico, traffic from Texas, consisting primarily of a flow of vehicles from the region near El Paso, is by far the greatest in volume, Texas vehicles traveling 115,500 daily vehicle-miles in New Mexico, while Oklahoma traffic and Kansas traffic are next in importance. Texas is also the leading State of origin of the central plains group in the case of Arizona and California, originating 27,700 daily vehicle-miles in Arizona and 14,000 in California.

Of the northeastern group, Illinois is the principal State of origin of traffic in the States of the survey. In the six States reported in Table 4 the traffic from Illinois represents more than one-fourth of the traffic from the northeastern group.

TRUCK CAPACITIES AND DENSITY

HIGHWAY design and location are dependent not only upon the volume of traffic to be served but also upon the wheel loads of this traffic. Light vehicles have less effect upon highways than heavy vehicles; hence, in problems which concern the free movement of traffic, such as the width of pavement, the necessity of parallel routes, or the elimination of grade crossings or "bottle necks," density of traffic is the most important factor. However, in the problems of designing the section or of selecting the most economical pavement, weight of traffic as well as density must be considered.

Passenger cars are light pneumatic-tired vehicles, and differences in their weight are of negligible importance in highway design. Trucks, on the other hand, vary from lightweight vehicles with the characteristics of passenger cars to heavy vehicles whose effect on the highway is somewhat greater than that of a passenger car. Since the rated capacity of a truck bears a very close relationship to the load and to the gross weight, it affords an excellent basis for measuring the weight characteristics of truck traffic. In analyzing traffic by weight, the simplest procedure, therefore, is to determine the proportion and density of truck traffic and the type of truck traffic on the basis of rated capacity.

Light trucks are far more numerous than those of any other type on the highways in the Western States. Trucks ranging from 1 to 1½ tons capacity form the most important group in all the States of the survey and represent more than 50 per cent of all trucks operating in these States. The use of very light delivery trucks and of trucks with slightly greater than 1½-tons capacity is also extensive, trucks of less than 1-ton capacity forming 14.2 per cent and trucks of 2 to 2½ tons capacity forming 17.6 per cent of all trucks. Light trucks of less than 3-tons capacity predominate numerically, comprising 85.5 per cent of all trucks. Trucks of greater than 3-tons capacity, while comprising only 14.5 per cent of all trucks, are more important from the standpoint of highway design. Trucks of 3 to 3½ tons capacity form 7.3 per cent; 5 to 5½ tons, 3.2 per cent; and over 7½ tons, 1.4 per cent of all trucks.

Table 5 shows the relative number of trucks of the various capacities observed on the highways of each State of the survey and also the combined percentages for the total number of trucks observed. These percentage distributions are presented graphically in Figures 8 and 9. The same general characteristics occur in the capacity distributions of trucks in the individual States as in the combined distributions for all States. The largest group in every instance is the 1 to 1½ ton group, and the next important groups are the ½ to ¾ ton and the 2 to 2½ ton, but there are significant differences in the relative importance of light and heavy trucks in different States. These differences may be easily studied if the summary of light and heavy trucks (Table 5) is used in conjunction with Figure 8. The relative use of heavy trucks is greatest in California, 23.1 per cent, and least in New Mexico, with 5.2 per cent. The relative use of heavy trucks is higher than the average in California, Washington, Nevada, and Oregon; in Arizona, Colorado, and Idaho the percentage of heavy trucks is slightly less than the average; while there is considerably less than the average percentage of heavy trucks in Nebraska, Utah, Wyoming, and New Mexico.

TABLE 5.—*Percentage distribution of trucks by capacity*

Capacity group, tons	Arizona	California	Colorado	Idaho	Nebraska	New Mexico	Nevada	Oregon	Utah	Washington	Wyoming	All States
½ to ¾	16.5	16.8	13.7	14.8	9.4	16.0	20.5	6.7	29.6	20.2	14.2	14.2
1 to 1½	48.2	41.8	59.8	57.7	65.0	63.8	45.6	56.4	47.6	44.4	64.1	53.7
2 to 2½	21.7	18.3	14.8	14.0	17.1	15.0	16.7	20.3	13.1	17.9	14.1	17.6
3 to 3½	8.9	9.7	5.1	5.4	6.0	2.9	7.7	9.1	5.7	6.9	5.3	7.3
4 to 4½	1.2	2.2	.8	1.4	1.0	.8	1.4	1.5	1.3	2.2	.5	1.4
5 to 5½	2.1	4.5	3.3	6.2	.8	.8	4.1	3.6	2.3	5.2	.9	3.2
6 to 6½	.3	1.8	1.7	.4	.2	.2	1.0	.7	0	1.7	.3	.9
7 to 7½	.2	.4	.3	.1	.1	.1	.5	.3	.2	.8	.3	.3
Over 7½	.9	4.5	.5	.0	.4	.4	2.5	1.4	.2	.7	.3	1.4
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
SUMMARY OF LIGHT AND HEAVY TRUCKS												
Under 3	86.4	76.9	88.3	86.5	91.5	94.8	82.8	83.4	90.3	82.5	92.4	85.5
3 and over	13.6	23.1	11.7	13.5	8.5	5.2	17.2	16.6	9.7	17.5	7.6	14.5
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

Several factors affect the proportions of light and heavy trucks, the most important being the demand for types of goods. If there is greater demand in one area

THE PLATTE RIVER BRIDGE NEAR GRAND ISLAND, NEBR.

for goods which can be most economically hauled by heavy trucks than there is in another area, the proportion of heavy trucks in the first area will be larger than in the second. However, the response to demand is affected by the condition of the highways over which the trucks must operate, the relative competition of rail or water transportation, and the relative taxation of the different capacities in the two areas. In general, goods which are transported by heavy trucks are mineral products, forest products, and certain heavy industrial products. The transportation of furniture, fabricated steel, casing for oil wells, and heavy machinery are examples of the latter classification. There is a growing use of large trucks in the transportation of products of high value on long hauls between cities, where speed of delivery offsets the lower charges of slower means of transportation. Farm products are usually transported to market by light trucks, and this is almost invariably the case when the truck is owned and operated by the farmer. However, there is a considerable movement of farm products in heavy trucks operated as "pick-up" trucks by dairies, canneries, and packing companies.

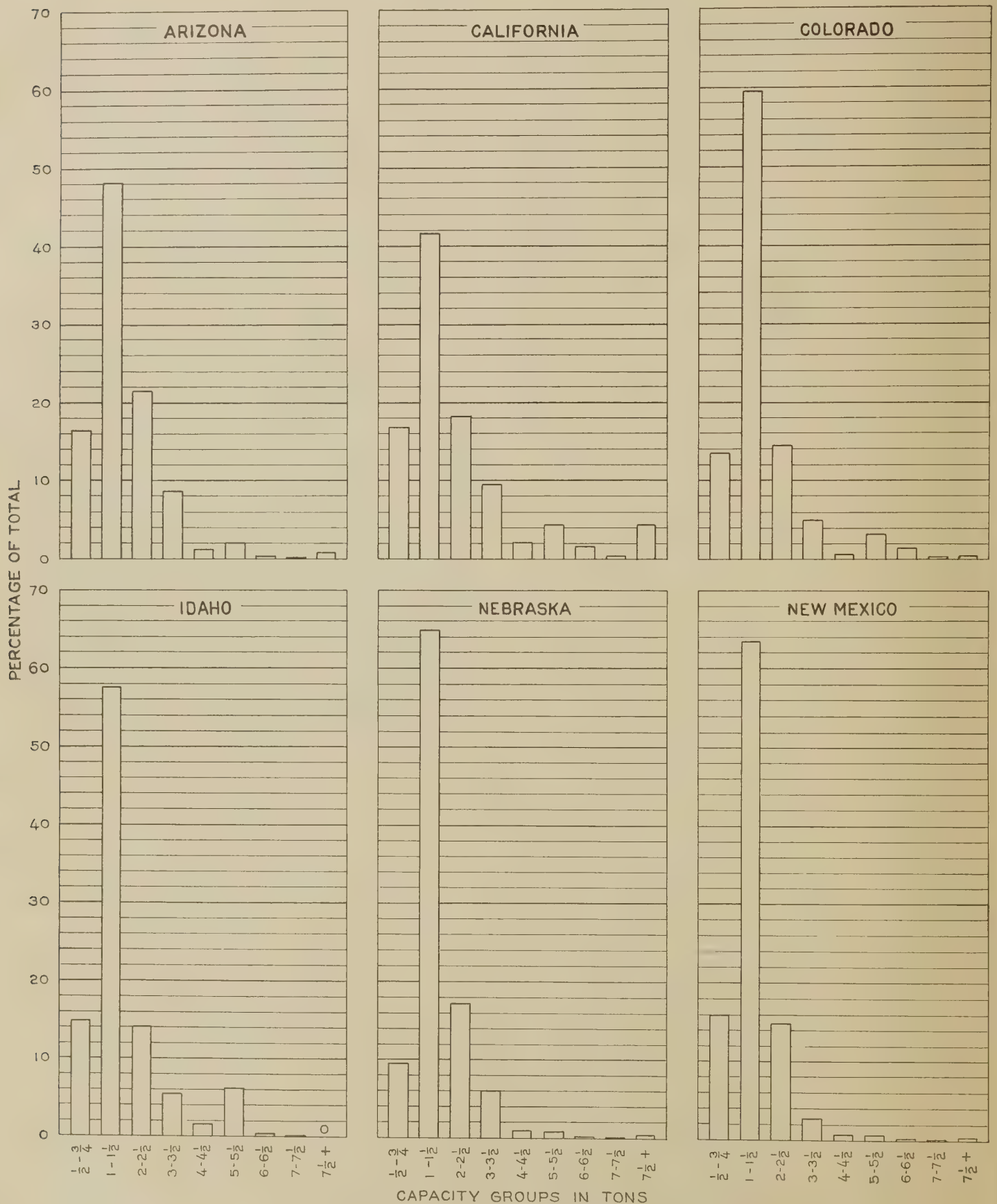

FIGURE 8.—PERCENTAGE DISTRIBUTION OF TRUCK TRAFFIC BY CAPACITY. TOTAL TRUCK TRAFFIC IN EACH STATE REPRESENTS 100 PER CENT

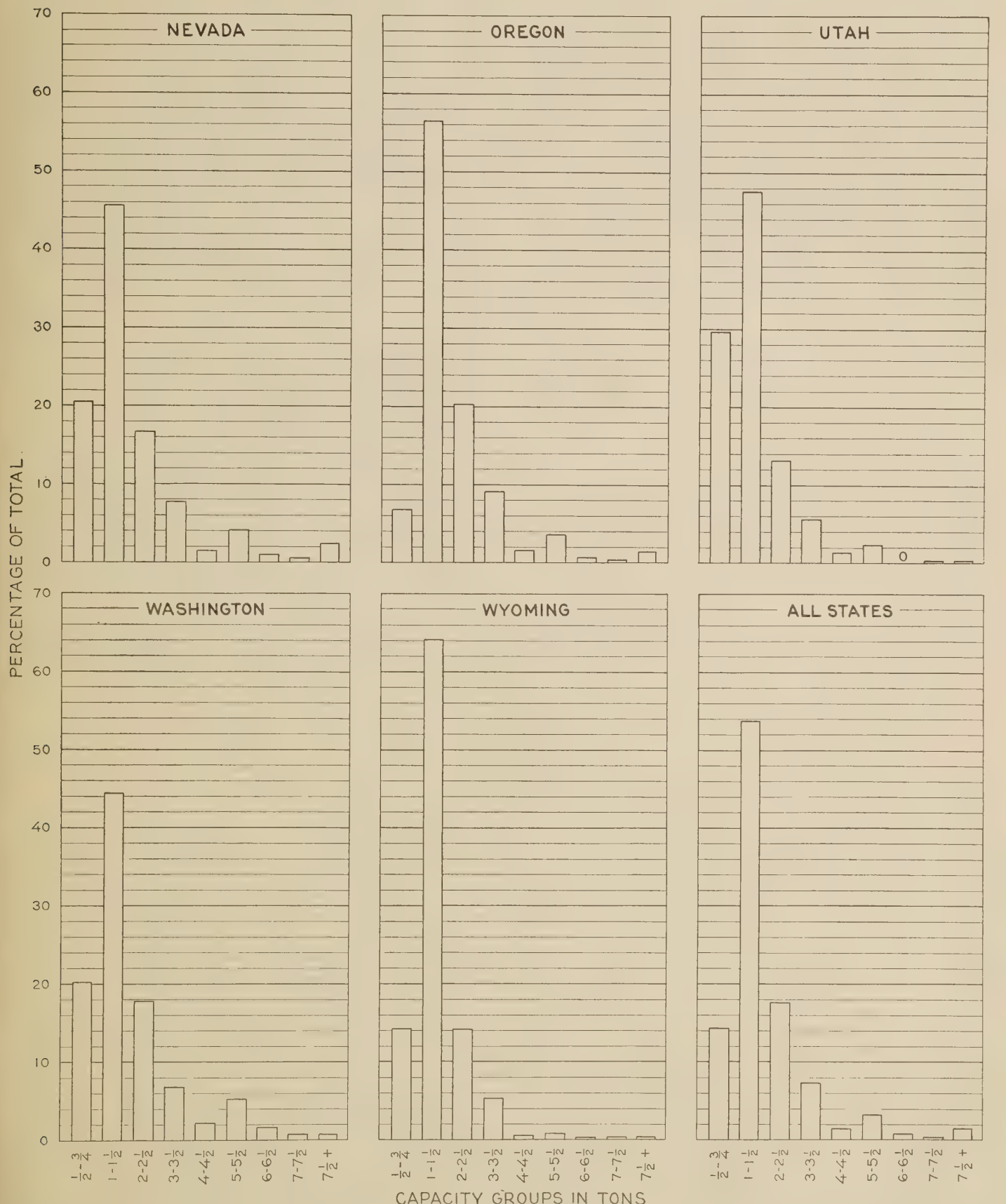

FIGURE 9.—PERCENTAGE DISTRIBUTION OF TRUCK TRAFFIC BY CAPACITY. TOTAL TRUCK TRAFFIC IN EACH STATE REPRESENTS 100 PER CENT

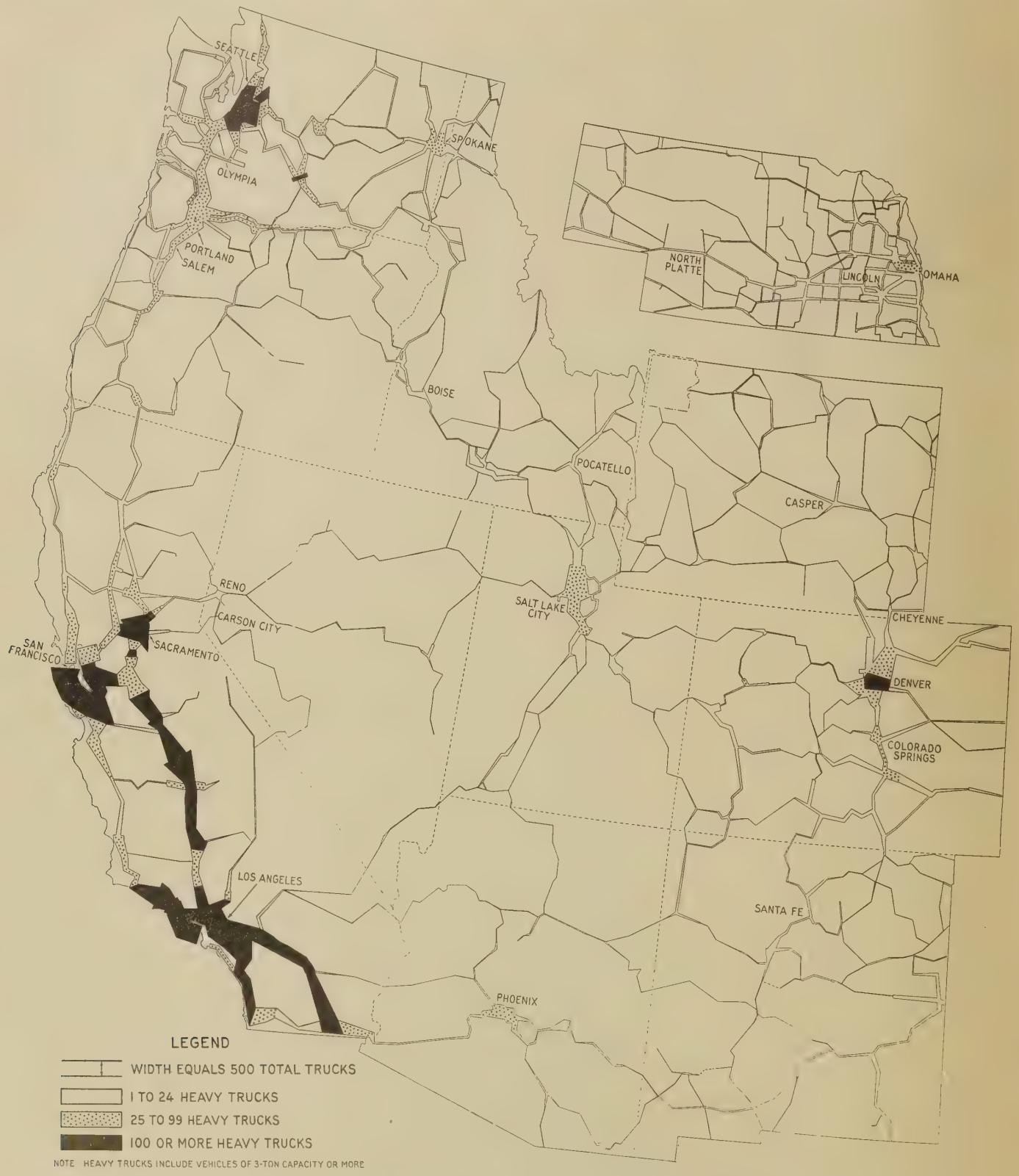

FIGURE 10.—AVERAGE DAILY TRUCK TRAFFIC IN THE WESTERN STATES AND DENSITY OF HEAVY TRUCKS. WIDTH BETWEEN LINES INDICATES DENSITY OF TOTAL TRUCK TRAFFIC AND SYMBOLS INDICATE DENSITY OF HEAVY TRUCKS

In the Western States, differences which occur in the capacity distribution of trucks may be accounted for to a great extent by the relative degree of industrial and agricultural activity. In States where the proportion of heavy trucking is pronounced, industrial activity is large, while in predominantly agricultural States heavy trucks form only a small proportion of the total.

A small highway mileage in each State carries the greatest amount of heavy trucking. In an analysis which will be of value to the highway designer, it is necessary to determine the amount of heavy trucking on various routes. These figures are given in Table 37 of the appendix and are also shown graphically in Figure 10, a flow chart of the average daily truck traffic.

TRAFFIC ON WESTERN HIGHWAYS

A—U. S. 40 IN UTAH. B—STATE ROUTE 60 IN LOS ANGELES COUNTY, CALIF. C—STATE ROUTE 1 IN WASHINGTON. D—U. S. 30 NEAR CHEYENNE, WYO.

TRUCK TRAFFIC IN CALIFORNIA

The most outstanding trucking areas in California are southern California, the San Francisco Bay section, and the Sacramento and San Joaquin Valleys. Los Angeles is the industrial hub of a number of smaller cities in southern California, and truck traffic on the routes leading from Los Angeles is very heavy. Although there are several State highways not included in the Federal-aid system providing communication between Los Angeles and the cities in the immediate vicinity, the Federal-aid highways are the most important routes to the more distant cities. Of these, the routes from Los Angeles to Santa Barbara, north to Bakersfield, and south to San Diego are of primary importance from the point of view of volume and weight of truck traffic.

There is also a large volume of truck traffic between Los Angeles and Pasadena, San Bernardino, and the Imperial Valley. The greatest volume of truck traffic is found on U. S. 101 south of Los Angeles between the city and Whittier, a total of nearly 1,400 trucks per day passing over this section, of which more than 350 are trucks of greater than 3-ton capacity. The majority of this traffic is local, as the number of trucks decreases rapidly south of Whittier, but the average between Whittier and San Diego is about 400 trucks per day, and the number of heavy trucks is but slightly less than 100 per day.

A large volume is carried on U. S. 101 between Los Angeles and Santa Barbara. Truck traffic on U. S. 101 north of Santa Barbara diminishes rapidly, but there is a considerable volume as far as San Luis Obispo. Beyond San Luis Obsipo there is a considerable stretch of sparsely settled country, and the volume of trucking between San Luis Obispo and Salinas averages less than 150 trucks per day. The proportion of heavy trucks between Los Angeles and Santa Barbara is particularly large because of the demand for heavy trucks in the transportation of heavy machinery and oil-well casing from Los Angeles to the oil fields near Santa Barbara and Ventura. The heaviest types of truck and trailer combinations are used in this traffic, commonly consisting of a 10-ton truck and a 10-ton trailer with a total gross weight of 34 tons. The average number of heavy trucks of more than 3-ton capacity is nearly 200 per day.

A similiar situation exists on U. S. 99 between Los Angeles and Bakersfield. While the total volume of trucking is less, averaging about 300 per day, the transportation of supplies to the oil fields near Bakersfield, and of cotton, hay, and milk to Los Angeles renders the route an extremely important one from the standpoint of weight of traffic. Although the number of large truck and trailer combinations is less than on the route to Santa Barbara because of the heavy grades on the section of this highway known as the "ridge route,"

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there is a daily average of nearly 100 trucks of more than 3-ton capacity, or approximately one-third of the total truck traffic.

Truck traffic on U. S. 66 and U. S. 99 from Los Angeles to Pasadena, San Bernardino, and El Centro is of a different type. The volume of trucking on this route is large, averaging more than 400 trucks per day, but as the principal commodities transported are finished products from Los Angeles, citrus fruits from the area between Pasadena and San Bernardino, and melons and vegetables from the Imperial Valley, the proportion of large-capacity trucks is small. Trucks of over 3-ton capacity average about 100 per day, approximately one-fourth of all trucks.

There is also much trucking from Los Angeles north to Lancaster and from San Diego east to El Centro and Yuma.

San Francisco and Oakland hold the same position with respect to the numerous smaller cities and towns of the San Francisco Bay section as does Los Angeles in the south, goods moving in considerable quantities by truck over the highways in this area. As the result of the location of the city of San Francisco at the end of the southern peninsula of San Francisco Bay, the only direct highway access to the city by land is U. S. 101.

The Bayshore Highway, California 68, while not yet completed to San Jose, carries a considerable volume of traffic to and from that place. This traffic branches off U. S. 101 at San Mateo. This route also carries the San Francisco traffic which crosses the San Mateo-Hayward toll bridge.

The dense population of the peninsula south of San Francisco, and the proximity of the great fruit industry of the Santa Clara Valley make U. S. 101 the most important trucking route of the area. The average volume of truck traffic is approximately 800 trucks per day as far south as Gilroy. Nearly 150 of these trucks are of more than 3-ton capacity, although for short distances along the route the volume of trucking is much higher, notably between neighboring towns. The greatest volume of truck traffic in the State was recorded on this route between Santa Clara and San Jose, an average of more than 2,272 trucks per day, of which approximately 300 were heavy trucks. A great part of this movement is caused by the transportation of fruit in the Santa Clara Valley to rail heads, and the seasonal character of this hauling often produces maximum daily densities much higher than the above figures indicate.

South of Gilroy on U. S. 101, while the density of truck traffic is less, numerous trucks are used in the transportation of commodities to and from the coastal cities of Salinas, Watsonville, and Monterey. There is also a considerable volume of trucking from San Jose to Santa Cruz.

On U. S. 101 north of San Francisco there is a considerable volume of trucking as far as Healdsburg, resulting principally from the transportation of farm products, notably eggs from the district near Petaluma. Routes carrying a large volume of trucking from the east bay cities are those from Hayward to San Jose, Hayward to Stockton, and Oakland to Sacramento. The abrupt decrease in truck traffic between Martinez and Suisun on the route from Oakland to Sacramento is explained by the presence of an alternate route between these points via the Carquinez Bridge, Vallejo, and Cordelia.

In the Sacramento Valley important trucking routes radiate from Sacramento north to Marysville, southward to Stockton and the cities of the San Joaquin Valley, and southwest to Oakland and San Francisco. U. S. 99 from Los Angeles through the San Joaquin Valley to Sacramento is the most heavily traveled route in the State, and the volume of truck traffic throughout this route is uniformly large. In addition to long-haul truck traffic between northern and southern California, there is a great deal of local trucking between the cities of the densely populated San Joaquin Valley. From Bakersfield north to Stockton and the San Francico Bay section the average daily volume of trucks varies from 400 immediately north of Bakersfield, to more than 1,000 at Fresno.

The remaining highways of the State carry a comparatively small volume of truck traffic, and the interstate movement of trucks from California is relatively unimportant, and is mainly confined to trucking over U. S. 99 into Oregon, and U. S. 80 to Yuma and Phoenix.

TRUCK TRAFFIC IN OREGON AND WASHINGTON

While the volume of trucking in the northern Pacific Coast States does not equal that of the large industrial centers of California, there is much truck traffic near Portland in Oregon, and around Seattle and the nearby cities in Washington. The most important single trucking route in these States is U. S. 99 from Medford in southern Oregon, via Portland, Olympia, and Tacoma to Seattle in northern Washington. The heaviest trucking is on the section from Portland to Seattle, reflecting the transportation of commodities between Portland, the largest city in Oregon, and the densely settled area near Seattle, the principal port of the Pacific Northwest. The average number of trucks varies from 200 per day in the more sparsely settled portions to 500 per day near the larger cities.

The greatest volume of short-haul trucking is found upon the routes radiating from Seattle. Important highways connect Seattle with Everett and Bellingham to the north, Renton and Fall City to the east, and Tacoma and Olympia to the south. The daily volume of trucks on U. S. 99 between Seattle and Everett averages approximately 350, and there is a parallel State highway to the east which carries more than 100 trucks per day. The volume of truck traffic north of Everett, between Everett and Bellingham averages about 200 per day, and between Bellingham and Blaine, just south of the Canadian border, about 150 trucks per day. Truck traffic across the border on the Federal-aid route is negligible, averaging but 10 trucks per day.

The greatest volume of truck traffic is concentrated on the routes entering Seattle from the east. On U. S. 10 between Seattle and Renton 750 trucks per day were recorded, but beyond Renton the volume falls off to 170 trucks per day at Fall City. State highway No. 2 from Seattle to Bothell also carries a large volume, the daily average on this route being 430 trucks. Between Tacoma and Seattle on U. S. 99 the average daily truck traffic is more than 400. The proportion of heavy trucks on the routes near Seattle is also large, the greatest volume of this type occurring between Seattle and Tacoma, where more than 100 trucks of more than 3-ton capacity per day were recorded. A large volume of trucks is also carried on U. S. 410 between Olympia and

Aberdeen and Hoquiam, on the coast, and on U. S. 10 from Spokane to Coeur d'Alene in Idaho.

In Oregon, the greatest volume of truck traffic was observed on the routes radiating from Portland. In addition to the volume of interstate truck traffic north on U. S. 99, there is a considerable volume south as far as Eugene. Between Eugene and Grants Pass through a comparatively sparsely settled stretch of country, the total volume of trucking is not large, but as U. S. 99 is the principal highway connection between northern and southern Oregon, there is considerable long-distance hauling. Between Grants Pass, Medford, and Ashland in the south there is much local movement of commodities by truck. In addition to the north-and-south movement from Portland, there is an important volume of truck traffic west to Astoria, southwest to the towns of McMinnville, Dallas, and Corvallis, and eastward on the Columbia River Highway as far as The Dalles.

Due to the position of Portland, the largest interstate movement of trucks is to and from the cities of Olympia, Tacoma, and Seattle in Washington. Secondary interstate trucking routes are those from Grants Pass to Crescent City in California, and from Ontario to Fruitland and Boise in Idaho.

TRUCK TRAFFIC IN IDAHO, UTAH, NEVADA, AND ARIZONA

Of the mountain States, the greatest volume of truck traffic occurs in northern Utah, reflecting the industrial activity of the Salt Lake City region. U. S. 91, from Provo south of Salt Lake City to Brigham and Logan in the north, is the most important trucking route. The volume varies from 970 trucks per day south of Salt Lake City to 340 per day at Logan. The volume of heavy trucking is also large on this route, particularly on the section between Provo and Ogden, varying from 25 to 100 trucks per day of more than 3-ton capacity.

In Idaho, the volume of trucking is generally light and marked by a concentration of traffic near the cities and towns in the western and southern portions of the State. Communication between Coeur d'Alene and Spokane makes U. S. 10 the most important truck route in northern Idaho, 160 trucks per day being recorded just west of Coeur d'Alene, of which about 20 were heavy trucks. Other routes radiating from Coeur d'Alene are relatively unimportant, and carry volumes of less than 100 trucks per day. Between Boise and Fruitland truck traffic is relatively large, averaging about 150 trucks per day, but the largest volume in Idaho was recorded between Twin Falls and Burley on U. S. 30, varying from 200 trucks per day at Twin Falls to 130 per day at Burley. A large volume of truck traffic is also carried on U. S. 91 from American Falls, via Pocatello, and Blackfoot to Idaho Falls, the average number of trucks being approximately 100 per day. In addition to the interstate trucking between the western cities of Idaho, Washington, and Oregon, there is a considerable volume of interstate traffic between Preston and northern Utah over U. S. 91, averaging 150 trucks per day between Preston and Logan.

The volume of trucking in the other States of this area is small, although large volumes of truck traffic are found near Phoenix in Arizona, and the mining towns of Miami and Globe, and near Reno, Nev.

TRUCK TRAFFIC IN WYOMING, COLORADO, AND NEW MEXICO

In Wyoming, Colorado, and New Mexico, the areas of greatest trucking activity are near the cities and towns of the fertile plains lying east of the Rocky Mountains. The western parts of these States, characterized by a scattered population and an arid or mountainous topography, have only a small volume of trucking.

The most important trucking route in the area is U. S. 85, running north and south through Colorado, and the greatest volume of trucks was recorded on the section between Denver, the principal industrial center, and Greeley, 880 trucks per day at Denver and 470 at Greeley. The proportion of heavy trucks on this section is also large, 100 trucks per day of more than 3-ton capacity being recorded at Denver and 50 at Greeley.

THE COVERED WAGON AND THE MOTOR CAR ARE BOTH ENCOUNTERED IN PRESENT-DAY TRAFFIC IN NEW MEXICO

While the volume of trucking south of Denver is considerably smaller, this route is an important highway connection between Denver and Colorado Springs, Pueblo, Walsenburg, and Trinidad. Pueblo in southern Colorado is a large railway and smelting center, resulting in a considerable volume of truck traffic between Pueblo, Colorado Springs, and Denver. With the exception of higher volumes of local traffic near the cities, truck traffic varies from 100 to 150 per day on this section of U. S. 85, but there is a particularly high percentage of heavy trucks, the average number of trucks of more than 3-ton capacity being 20 to 25 per day. Between Pueblo and Trinidad the total volume remains about the same, but there is a rapid decline in the number of heavy trucks, which average from 8 to 10 per day.

Another important trucking route, U. S. 285, connects Denver with the agricultural centers of Boulder, Loveland, and Fort Collins to the north. The volume of trucking on this route as far as Fort Collins averages more than 250 trucks per day, but the percentage of heavy trucks is small because of the kind of commodities hauled, 15 trucks per day of more than 3-ton capacity being recorded at Fort Collins, and 30 near Denver. A very large volume of truck traffic was recorded on U. S. 40 immediately west of Denver, but this traffic is largely local in character.

Besides U. S. 85, there are several important east-and-west routes. Of these, U. S. 38 to the wheat, corn, and beet region near Fort Morgan and Sterling, U. S. 40–S from Colorado Springs to Limon, U. S. 50 from

Pueblo east to the fertile Arkansas River Valley, and west to Canon City, carry the most traffic. There is also a large volume of trucking between Walsenburg and the agricultural center of Alamosa, and from Montrose and Palisade in the west to Grand Junction, the shipping center of a considerable fruit and vegetable area.

Except where trucks are used in the transportation of ore from mines to smelters, the mining towns of the "west slope" are not characterized by a large volume of truck traffic. An example of this type of truck traffic is found near Rifle. Vanadium ore is hauled in heavy trucks from the mine a few miles northwest to the smelter at Rifle, resulting in a large volume of heavy trucking for a short distance on Colorado 13. The volume of trucks recorded near Rifle on this route is 125 per day, half of which were of more than 3-ton capacity and were used in the transportation of ore.

In both Wyoming and New Mexico, truck traffic is generally light in volume, and there are no highways which carry a volume equal to that of the outstanding routes in Colorado. In Wyoming, except for the local trucking in the immediate vicinity of towns, and the short-haul trucking between near-by towns, the average number of trucks on the various sections of the Federal-aid system is less than 50 per day, and the number of trucks of greater than 3-ton capacity less than 5 per day. The greatest volume of trucking was recorded south of Torrington on U. S. 85, but as this traffic was largely to and from a large beet-sugar mill near the town, and was composed principally of light trucks, it is of little significance in the highway program. A relatively large volume of trucking occurs near Casper, the center of the oil industry, and the most important route is that section of U. S. 87–E between Casper and the Teapot Dome oil field. The average number of trucks per day is 87 at Casper, and 62 at Teapot Dome, of which 6 per day are heavy trucks. The largest traffic from Cheyenne is over U. S. 85, which affords communication with Greeley and Denver in Colorado, the volume being 95 trucks, including 7 heavy trucks per day.

In New Mexico the greatest volume of trucking is found near Albuquerque, the largest city and principal industrial center, but this traffic is largely local in character, and decreases rapidly as the distance from the city increases. The largest number of trucks are found on U. S. 85 between Albuquerque and Bernalillo, 253 trucks per day being recorded at Albuquerque, and 93 at Bernalillo. Beyond Bernalillo, truck traffic, averaging about 50 trucks per day, is primarily through traffic between Albuquerque and Santa Fe. South of Albuquerque on U. S. 85 as far as Socorro, and west on U. S. 66 to Gallup there is an appreciable volume of truck traffic.

In the eastern portion of New Mexico there is a relatively large volume of trucking on the routes leading from Clovis. Between Clovis and Fort Sumner, the average number of trucks varies from 130 per day at Clovis to 68 at Fort Sumner, and between Clovis and Roswell the importance of trucking is reflected by a volume of 112 per day at Clovis and 52 trucks per day at Roswell. There is considerable interstate trucking from Clovis across the line into Texas, and from Las Cruces to El Paso in the south. Other relatively important truck routes in New Mexico are those between Roswell and Carlsbad, and Santa Fe and Espanola.

TRUCK TRAFFIC IN NEBRASKA

Conditions in Nebraska differ from those of any of the other States of the survey. As Nebraska lies wholly in the prairies between the Rocky Mountains and the Mississippi River, there is less rough and arid land. In contrast to a marked concentration of the urban population in a few cities and towns, Nebraska is characterized by a decentralization of population on farms and in small rural villages, and this is particularly true in the eastern half of the State. With the exception of Omaha, there are no large industrial centers. The result is a rectangular highway system governed not so much by topographical conditions as by the location of township lines. With a great number of parallel and alternate highways, there is an absence of predominantly important trucking routes, and a more even distribution of truck traffic, which is principally of the lightweight, farm-to-market type.

The only route upon which the volume of heavy trucks is more than 25 per day is U. S. 30 between Omaha and Fremont, the average number of trucks being 250 to 300 per day, about 40 of which are of more than 3-ton capacity. There are several other relatively important routes between Omaha and near-by cities. Next in importance to U. S. 30 is U. S. 38 between Omaha and Lincoln, carrying approximately 140 trucks per day, of which 15 are heavy trucks. South from Omaha on U. S. 75 there is an appreciable volume of trucking as far south as Auburn, varying from 179 trucks per day near Omaha to 94 at Auburn. Other trucking routes in this area radiate from Lincoln south to Beatrice and west to Dorchester and Seward; from Fremont north toward Scribner and West Point and west to Schuyler and Columbus. In the northeast a comparatively large volume of truck traffic is carried on U. S. 77 and U. S. 20 near South Sioux City, as the result of the proximity of Sioux City in Iowa, but it is largely local in character.

A number of other sections of the Federal-aid system in eastern Nebraska may be designated as secondary truck routes and are easily distinguishable on the truck flow map. Truck traffic on these routes varies in volume from 50 to 100 trucks per day, and the proportion of trucks of more than 3-ton capacity is generally about 10 per cent of the total.

In western Nebraska, which is less densely settled than the eastern portion of the State, and in the much more arid area north of the Platte River Valley, there is a departure from the rectangular pattern and the highway system more closely resembles that of the other States of the survey. It is marked by a small number of widely separated towns and villages, and the volume of trucks is considerably less than in the east, usually averaging less than 50 trucks per day.

DAILY MILEAGE OF TRUCKS

THERE is little variation in the daily mileage of trucks as determined in the various States, and the distribution shown in Table 6, representing the combined results from all States of the survey, may be considered typical of any one State. The distribution for a particular State may be obtained from Figures 11 and 12 and Tables 37 and 38 of the appendix.

The distributions of Table 6 represent the daily mileages of trucks on the rural highway system, and the results shown are undoubtedly much higher than they would have been had the mileage of trucks operating within cities been included.

TABLE 6.—*Percentage distribution of trucks for all States by daily mileage*

Length of daily travel (miles)	Local	Foreign	All trucks	
	Per cent	*Per cent*	*Per cent*	*Cumulative per cent*
Less than 20	6.6	3.3	6.3	6.3
20 to 39	14.2	7.6	13.5	19.8
40 to 59	16.3	8.2	15.5	35.3
60 to 79	14.4	9.9	13.8	49.1
80 to 99	9.4	6.6	9.2	58.3
100 to 119	10.5	8.5	10.3	68.6
120 to 139	6.9	7.2	7.0	75.6
140 to 159	6.2	8.3	6.5	82.1
160 to 179	3.4	6.2	3.6	85.7
180 to 199	2.0	4.3	2.2	87.9
200 to 219	3.6	8.4	4.1	92.0
220 to 239	1.3	3.1	1.5	93.5
240 to 259	1.8	4.3	2.0	95.5
260 to 279	.7	2.0	.9	96.4
280 to 299	.4	1.8	.5	96.9
300 and over	2.3	10.3	3.1	100.0

Truck traffic on rural highways is predominately a short-haul movement. While only about 6 per cent of all trucks travel less than 20 miles per day; 13.5 per cent travel from 20 to 39 miles; 15.5 per cent travel from 40 to 59 miles; and 13.8 per cent from 60 to 79 miles per day. Nearly 50 per cent of all trucks, therefore, travel less than 80 miles per day, while 58.3 per cent travel less than 100 miles.

Approximately 10 per cent of all trucks travel from 100 to 119 miles per day, but there is a rapid decline in the number of trucks as the mileage increases beyond this point. (Figs. 11 and 12). Fully 75 per cent of all trucks travel less than 140 miles per day, and nearly 90 per cent less than 200 miles per day.

TABLE 7.—*Average and median daily mileage of trucks by States*

State	Mileage of—					
	Foreign trucks		Local trucks		All trucks	
	Average [1]	Median [2]	Average [1]	Median [2]	Average [1]	Median [2]
Arizona	170	146	96	75	109	82
California	181	162	106	85	107	85
Colorado	168	150	93	74	98	77
Idaho	147	133	90	70	100	78
Nebraska	153	132	109	93	114	97
New Mexico	153	142	89	73	103	82
Nevada	136	119	76	63	87	69
Oregon	145	125	101	80	106	83
Utah	155	139	97	82	102	87
Washington	142	126	89	74	92	75
Wyoming	155	138	87	71	97	76
All survey States	154	137	98	78	103	82

[1] Arithmetic average of daily mileage of vehicles.
[2] A distance so chosen that one-half of the vehicles travel more than this distance in a day, and one-half travel less.

The arithmetic average of the daily travel of all trucks (Table 7) for all survey States is 103 miles, but this average is heavily weighted by a small number of trucks which make unusually long daily trips. The median travel, a distance so computed that one-half of all trucks travel less and one-half travel more than this distance, is unaffected by the smaller number of vehicles which make longer trips and hence is a better measure of the average daily mileage. The median travel for all States is 82 miles, 21 miles shorter than the average trip. While 80 miles is not usually considered a short distance, it must be remembered that this distance is the mileage per day on rural highways, and that it usually represents one or more round trips from origin to destination.

While the short daily movement of trucks is characteristic, there is a considerable long daily movement reflected by the 12.1 per cent of all trucks traveling distances in excess of 200 miles per day. Trucking of this class is largely confined to through routes between important centers of population. U. S. 99, which is the principal route between Los Angeles and the cities near San Francisco Bay, is an example. About 75 per cent of the truck traffic of this class is interstate. The average daily travel of trucks on this route is 140 miles and the median is 120 miles, considerably higher than the average and median travel for all trucks in California. The average and median travel of trucks on the coast route between Los Angeles and San Francisco, U. S. 101, is 120 miles and 100 miles. Similarly, the average and median daily travel between San Diego, Calif., and Phoenix, Ariz., is 135 and 100 miles. In Oregon, the principal long-distance trucking route is U. S. 99. The average and median daily travel of trucks on this route is 126 miles and 100 miles, approximately 20 miles longer than the State averages.

TRAVEL BY FOREIGN TRUCKS

With the exception of local "over-State-line" movement of trucks, foreign traffic, or interstate traffic, is primarily a long-haul movement, as indicated by a comparison of the daily mileages of local and foreign trucks. Table 6 and Figure 13 show the combined distribution of local and foreign trucks for all States. The distribution for each State is shown in Tables 38 to 41 of the appendix.

Since the majority of trucks operate intrastate, the distribution of daily mileages of local trucks shows little variation from that of all trucks. Approximately 60 per cent travel less than 100 miles per day, and 90 per cent less than 200 miles. Foreign trucks, however, show a much smaller concentration below 100 miles, and a much greater percentage traveling more than 100 miles. Only one-third of all foreign trucks travel less than 100 miles per day; fully one-third travel from 100 to 200 miles; while one-fifth travel between 200 and 300 miles; and one-tenth exceed 300 miles per day. As only 2.3 per cent of local trucks exceed 300 miles per day, the proportion of foreign trucks making exceptionally long trips to total foreign trucks is nearly five times the proportion of local trucks making similar trips.

The average daily travel of all foreign trucks is 154 miles, more than one and one-half times that of all local trucks. (Table 7.)

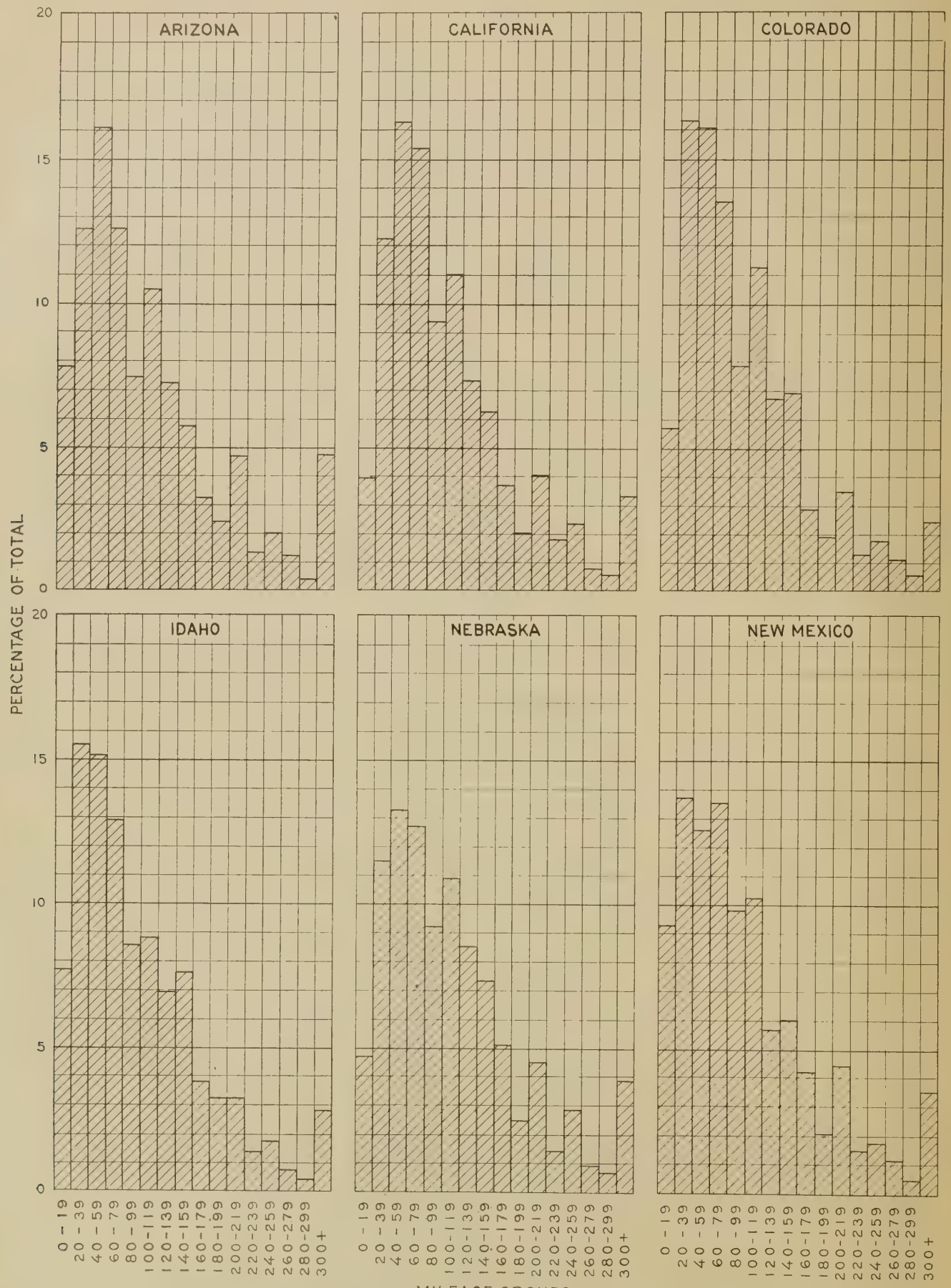


FIGURE 11.—PERCENTAGE DISTRIBUTION OF TRUCKS BY DAILY MILEAGE

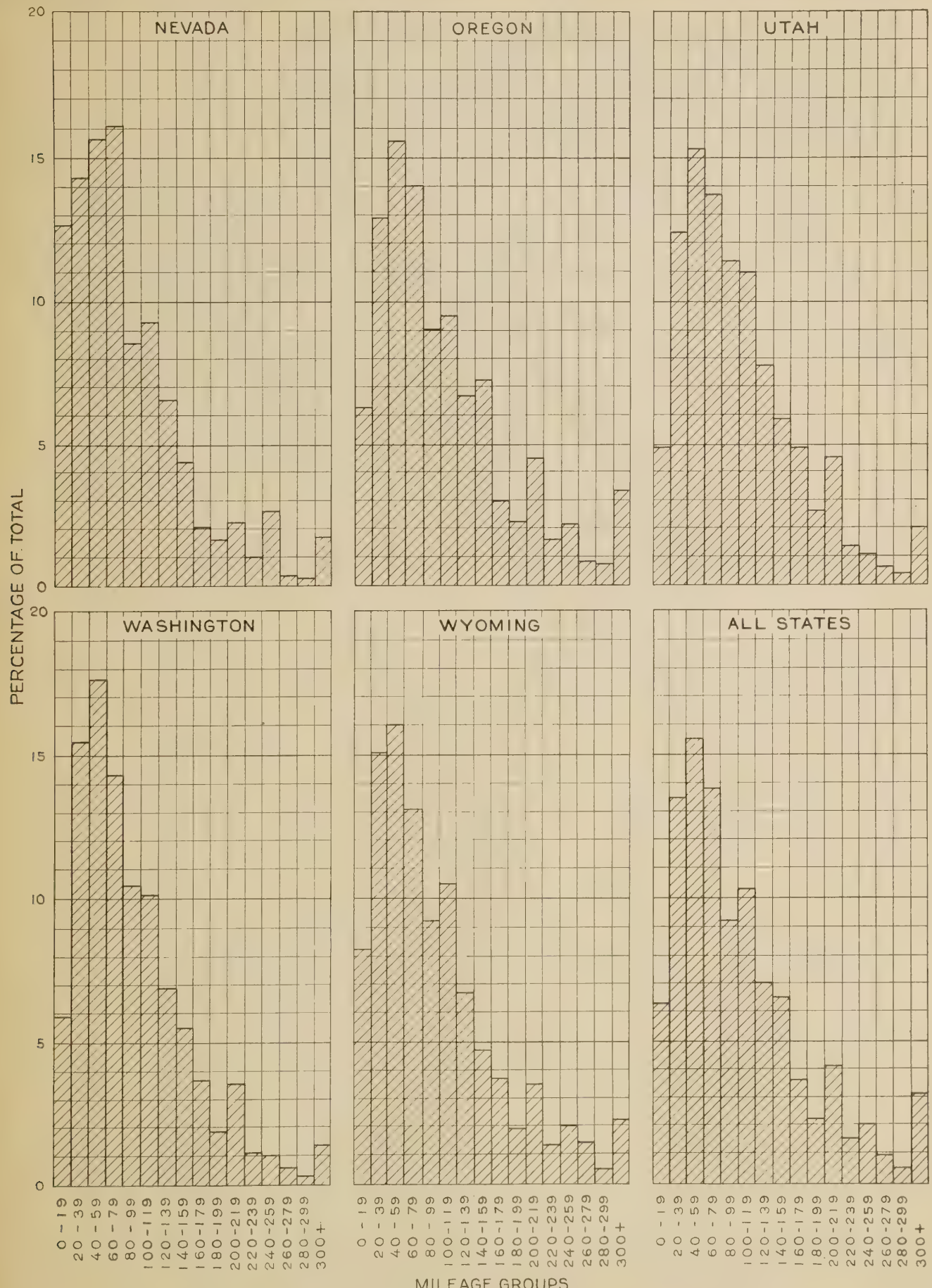
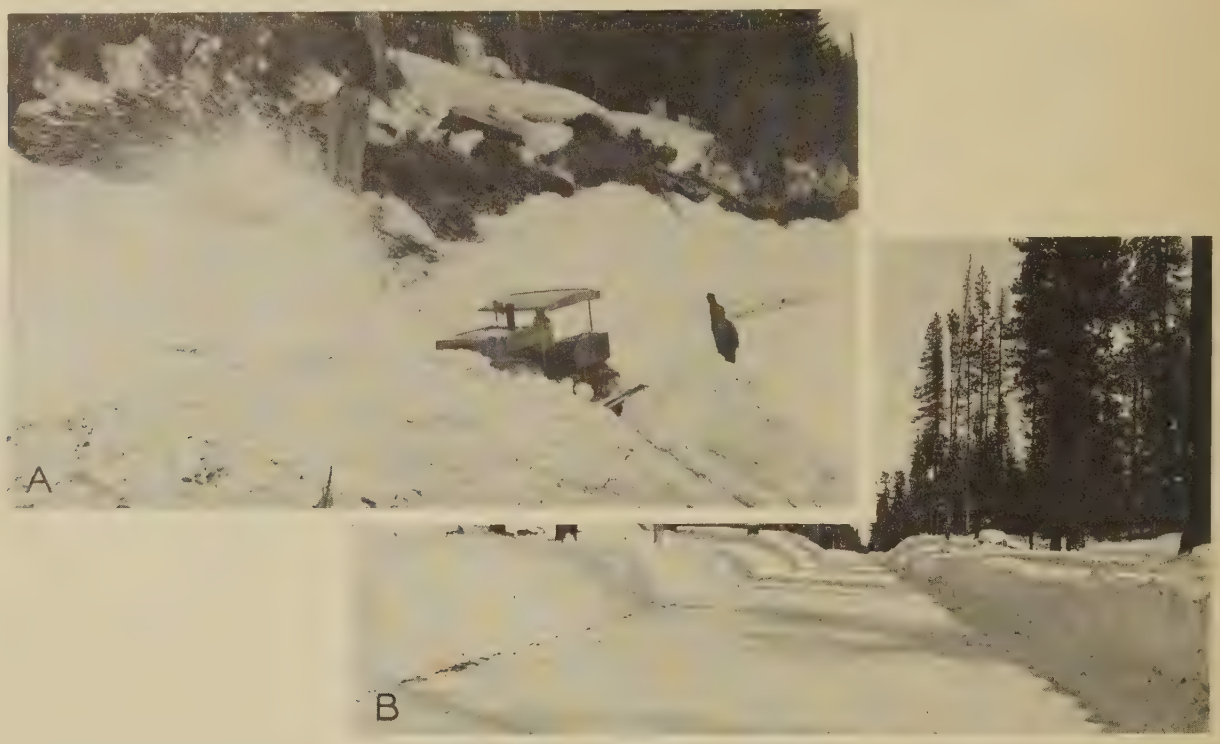


FIGURE 12.—PERCENTAGE DISTRIBUTION OF TRUCKS BY DAILY MILEAGE



SNOWFALL IN MOUNTAINOUS SECTIONS MATERIALLY AFFECTS THE VOLUME OF WINTER TRAFFIC: A, A ROTARY PLOW IN ACTION NEAR LOOKOUT SUMMIT IN IDAHO; B, SNOW REMOVAL ON U. S. 97 IN OREGON

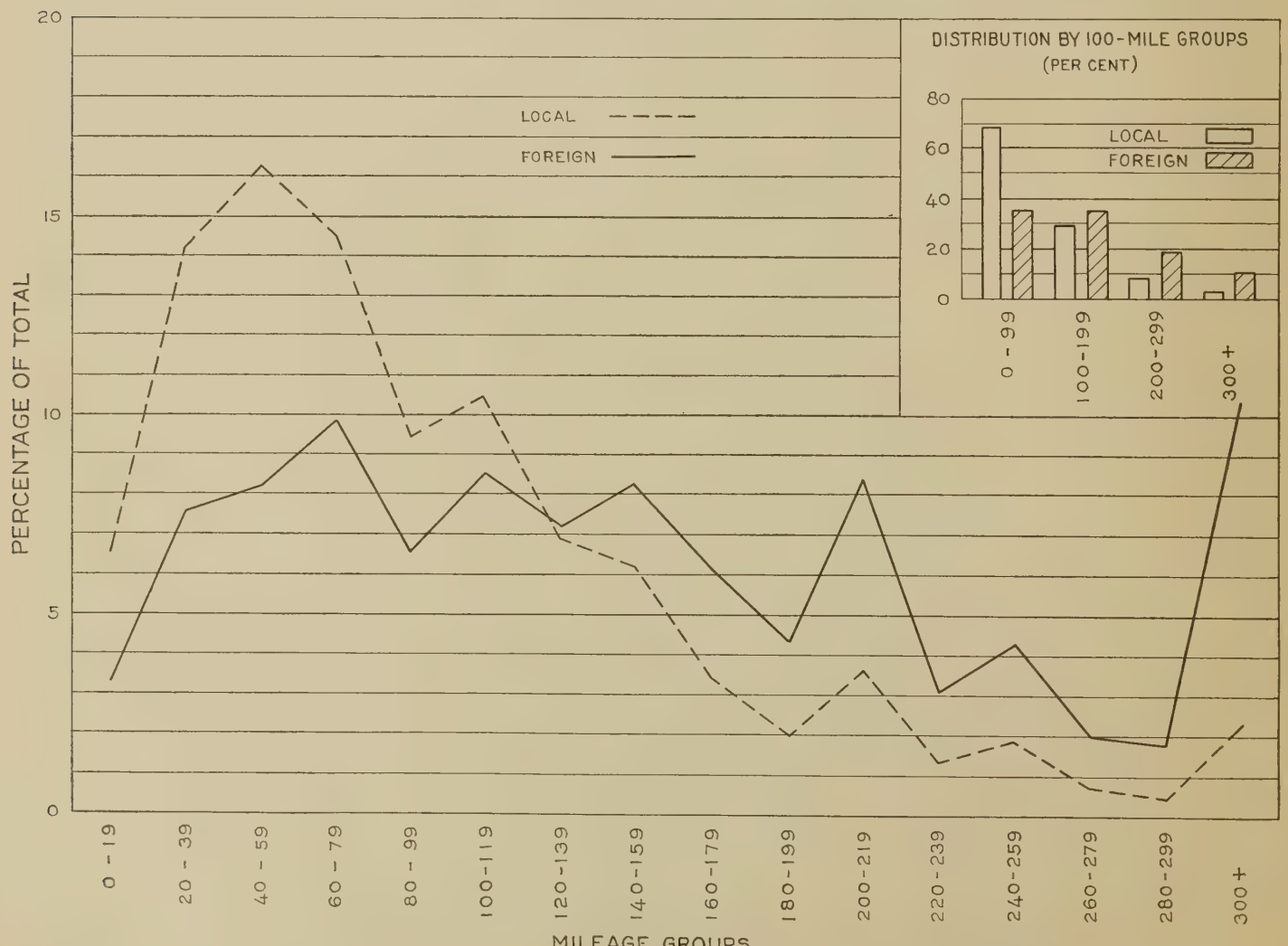


FIGURE 13.—PERCENTAGE DISTRIBUTION OF LOCAL AND FOREIGN TRUCKS BY DAILY MILEAGE TRAVELED

SITUS OF OWNERSHIP OF TRUCKS

THE situs, or place of ownership, of vehicles observed upon the highways indicates the comparative use of the highway system by various classes of owners and aids in establishing a basis of highway-tax distribution.

Vehicle ownership was divided into three classes—farm, village, and city—a city being a place of 2,500 or greater population and a village one of less than 2,500 population. This division is identical with that of the Bureau of the Census except that cars of rural ownership are subdivided into owners living in rural communities and those actually living on farms.

The percentage distribution of trucks observed on the Federal-aid system by situs classes for each of the States of the survey and for the combined States is presented in Table 8. City trucks comprise nearly one-half of all trucks for the combined States and the remainder is divided equally between farm and village trucks. However, there is a wide variation from this relation in individual States because of differences in agricultural and industrial development. These variations are shown graphically in Figure 14.

TABLE 8.—*Percentage distribution of trucks by States according to situs of ownership*

State	Percentage of trucks from—			State	Percentage of trucks from—		
	Farms	Villages	Cities		Farms	Villages	Cities
Arizona	22.5	27.5	50.0	Oregon	22.7	26.3	51.0
California	16.7	17.2	66.1	Utah	20.9	28.2	50.9
Colorado	32.5	26.3	41.2	Washington	30.6	26.9	42.5
Idaho	36.3	21.5	42.2	Wyoming	43.1	33.9	23.0
Nebraska	27.2	37.0	35.8				
New Mexico	35.6	30.6	33.8	All survey States	26.3	27.0	46.7
Nevada	21.7	52.5	25.8				

In Wyoming, a State with large areas of nonproductive land, and a small population largely concentrated in villages along the highways and railroads, only 23.0 per cent of the trucks are city-owned, 33.9 per cent are village-owned, and 43.1 per cent are farm-owned.

California is at the other extreme with two large urban areas, San Francisco Bay region and Los Angeles County, and numerous smaller cities, in addition to a large agricultural population. Here city-owned trucks are 66.1 per cent of the total, and the remainder is about equally divided between farm and village population.

COMPARISON OF DISTRIBUTION OF TRUCKS AND POPULATION BETWEEN URBAN AND RURAL COMMUNITIES

A comparison of the distribution of trucks and population between urban and rural is shown in Table 9.

The Bureau of the Census recognizes but two divisions of population—rural and urban—and classifies as rural the population of villages under 2,500, as well as the population actually on farms. In order to compare situs of trucks with population, it is necessary to combine farm and village owned trucks.

Considering the whole area, the rural population composes 42.7 per cent of the total population and possesses 53.3 per cent of all trucks on the highway system, while the urban population, 57.3 per cent of the total, has but 46.7 per cent of the trucks. There is definitely a greater proportionate use of trucks by rural owners than by urban owners.

TABLE 9.—*Percentage distribution of situs of ownership of total trucks and of total population between rural and urban*

State	Rural		Urban	
	Trucks	Population [1]	Trucks	Population [1]
Arizona	50.0	65.6	50.0	34.4
California	33.9	26.7	66.1	73.3
Colorado	58.8	49.8	41.2	50.2
Idaho	57.8	70.9	42.2	29.1
Nebraska	64.2	64.7	35.8	35.3
New Mexico	66.2	74.8	33.8	25.2
Nevada	74.2	62.2	25.8	37.8
Oregon	49.0	48.7	51.0	51.3
Utah	49.1	47.6	50.9	52.4
Washington	57.5	43.4	42.5	56.6
Wyoming	77.0	68.9	23.0	31.1
All survey States	53.3	42.7	46.7	57.3

[1] Census of 1930.

This relationship holds for all States of the survey in varying degree, except Arizona, New Mexico, and Idaho where the proportion of rural trucks is less than the proportion of rural population. In all of these States there is a large proportion of foreign trucks which undoubtedly increases the percentage of city-owned trucks since long-distance interstate trucking lines are most frequently city owned.

Approximately half of Arizona's foreign truck traffic originates in southern California, while a large part of the remainder is from El Paso, Tex. In New Mexico one half of the foreign truck traffic originates in Texas clearly indicating the influence of El Paso, while Colorado also contributes a large share via Walsenburg and Trinidad. The proximity of Salt Lake City, Ogden and Brigham in Utah, and Spokane, Wash., raises the percentage of city-owned trucks traveling upon Idaho highways.

RELATION OF SITUS OF OWNERSHIP TO CAPACITIES OF TRUCKS

Since the weight of trucks, as indicated by their capacities, is an important factor in the design of highway surfaces, it is desirable, in considering the relative use of the highway system by situs classes, to know the capacities within each class.

Table 10 has been prepared by dividing traffic stations into three classes according to percentage of rural truck traffic and then making a capacity distribution of the truck traffic observed at each class of station. In the first group, 0 to 24.9 per cent rural owned; while the 1 to 1½ ton truck predominates with 49.1 per cent, this figure is less than the 53.7 per cent this capacity group constitutes of all trucks. (Table 5.) The 2 to 2½ ton group constitutes 19.3 per cent which is greater than the average of 17.6 for all trucks shown in Table 5. Where the percentage of rural-owned trucks is from 50 to 100 per cent of total trucks, there is a distinctly higher proportion of 1 to 1½ ton trucks and less than average percentage of trucks of over 2 tons capacity. Rural trucks are largely light trucks, 93.7 per cent being of less than 3-ton capacity, while city-owned trucks have a larger proportion of heavy trucks.

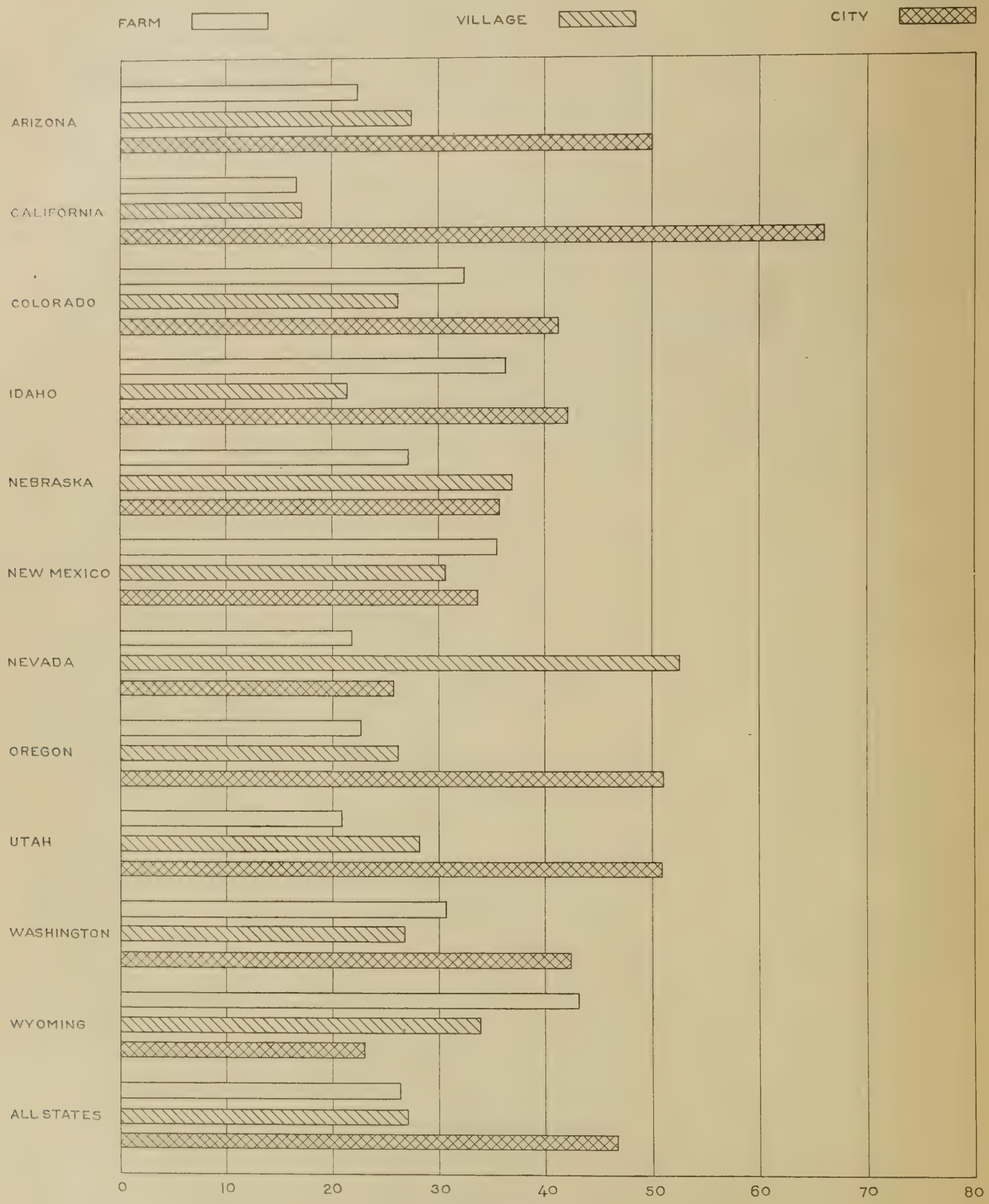


FIGURE 14.—SITUS OF OWNERSHIP OF TRUCKS

TRUCK TRAFFIC ON WESTERN HIGHWAYS

TABLE 10.—*Capacity distribution of truck traffic at stations grouped according to percentage of truck traffic of rural origin*

Capacity (tons)	0 to 24.9 per cent	25 to 49.9 per cent	50 to 100 per cent	Capacity (tons)	0 to 24.9 per cent	25 to 49.9 per cent	50 to 100 per cent
	Per cent	*Per cent*	*Per cent*		*Per cent*	*Per cent*	*Per cent*
½ to ¾	14.0	14.4	14.8	6 to 6½	1.2	0.5	0.3
1 to 1½	49.1	57.7	64.4	7 to 7½	.3	.3	.3
2 to 2½	19.3	16.1	14.5	Over 7½	2.1	.6	.4
3 to 3½	8.4	6.4	3.3				
4 to 4½	1.7	1.2	.8	Total	100.0	100.0	100.0
5 to 5½	3.9	2.8	1.2				

In the group of stations where rural trucks are 0 to 24.9 per cent of the total, 7.5 per cent of the trucks have a capacity of 5 tons or greater. Where rural trucks are 50 to 100 per cent of all trucks, only 2.2 per cent have a capacity of 5 tons or more. Trucks of large capacity are more than three times as frequent where city trucks predominate than where rural trucks predominate.

City-owned trucks predominate in numbers, comprising 46.7 per cent of the daily truck traffic in the 11 survey States. This proportion varies from 34 per cent to 66 per cent in individual States, with the exception of Nevada, with 25.8 per cent city owned, and Wyoming with 23.0 per cent city owned.

In the majority of the States the rural trucks are divided equally between farm and village trucks. Wyoming and Idaho show a distinctly larger proportion of farm trucks than village trucks.

When rural trucks are compared with rural population a higher per capita use of the highway system by the rural population than by urban population is indicated. However, this must be considered in connection with the fact that rural trucks are almost entirely of light capacity, with the characteristics of passenger cars in their effect on highway surfaces, while heavier trucks are largely city owned.

FOREIGN TRUCK TRAFFIC BY STATE OF REGISTRATION

THE origin of foreign truck traffic observed in each State of the survey is shown in Figures 15 and 16 and Table 11. The area of the black circles shown in the drawings represents the percentage of the total foreign trucks of the State under consideration registered from the other States and areas indicated. This diagram clearly indicates the influence of large cities and in general, the confinement of interstate trucking to a movement between adjoining States.

FOREIGN TRUCK TRAFFIC IN PACIFIC COAST STATES

In the Pacific Coast States there is a considerable interstate movement of trucks on the principal north and south highway, U. S. 99. Because of the location of Portland, Oreg. in closer proximity to Seattle, Wash., than to cities in California, the movement between Washington and Oregon is large. Washington draws 37 per cent of its foreign truck traffic from Oregon, while 47 per cent of the foreign trucks on Oregon highways are registered in Washington. There is also a considerable east and west movement of trucks between Washington and Idaho to and from Spokane and the region about Coeur d'Alene in Idaho. Thirty-three per cent of the foreign truck traffic in Washington originates in Idaho, and 30 per cent of Idaho's foreign truck traffic is of Washington registration.

TABLE 11.—*Percentage of foreign truck traffic in the survey States classified according to State of registration*

[Total foreign truck traffic represents 100 per cent]

Trucks registered in—	Foreign trucks observed in—										
	Arizona	California	Colorado	Idaho	Nebraska	Nevada	New Mexico	Oregon	Utah	Washington	Wyoming
Arizona	-----	7.8	0.4	0.2	(1)	6.5	6.8	0.4	6.3	(1)	(1)
California	47.5	-----	3.5	4.3	1.4	54.0	5.6	29.2	12.6	9.1	3.7
Colorado	5.1	4.4	-----	3.1	13.4	1.5	15.4	.3	14.1	(1)	26.2
Idaho	.8	1.7	1.5	-----	1.2	1.5	.2	12.9	28.3	33.0	1.1
Nebraska	.8	1.7	21.7	.5	-----	1.5	.7	.4	1.6	(1)	16.6
Nevada	2.2	7.0	(1)	.5	(1)	-----	.4	.6	7.9	(1)	(1)
New Mexico	6.2	(1)	7.0	.2	.6	.7	-----	.3	1.6	1.0	(1)
Oregon	1.1	37.5	.4	10.2	1.2	(1)	.1	-----	3.1	36.6	1.1
Utah	2.8	1.7	4.3	35.3	(1)	29.9	.4	.6	-----	.5	5.3
Washington	1.9	11.3	.4	30.0	.6	.7	.5	47.2	1.6	-----	1.6
Wyoming	.8	1.7	14.3	3.8	4.6	2.2	.4	.6	7.9	1.0	-----
Central Plains States	20.7	8.7	36.0	7.6	63.0	(1)	64.2	4.3	5.5	6.1	34.8
Total west of Mississippi River	89.9	83.5	89.5	95.7	86.0	98.5	94.7	96.8	90.5	87.3	90.4
Northeastern States	6.6	13.9	7.0	3.8	12.0	1.5	3.9	2.2	8.7	3.6	7.5
Southeastern States	2.2	1.7	2.3	.3	1.7	(1)	.6	.4	(1)	2.5	1.0
New England States	.8	(1)	(1)	(1)	(1)	(1)	.1	(1)	(1)	1.5	1.1
Total east of Mississippi River	9.6	15.6	9.3	4.1	13.7	1.5	4.6	2.6	8.7	7.6	9.6
Other countries:											
Canada	.3	.9	.8	.2	.3	(1)	.2	.5	(1)	5.1	(1)
Mexico	.2	(1)	(1)	(1)	(1)	(1)	.5	(1)	(1)	(1)	(1)
Miscellaneous	(1)	(1)	.4	(1)	(1)	(1)	(1)	.1	.8	(1)	(1)
Total	.5	.9	1.2	.2	.3	(1)	.7	.6	.8	5.1	(1)
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

[1] Less than 0.1 per cent

While the movement of California trucks into Washington is of secondary importance, the fact that 9 per cent of the foreign trucks in Washington are registered in California and that 11 per cent of California's foreign trucks come from Washington, does indicate the movement of commodities by trucks on exceptionally long hauls between Washington and California. Oregon, Idaho, and California are the principal sources of foreign truck traffic in Washington, contributing approximately 80 per cent of the total. The Dominion of Canada furnishes but 5 per cent; the Central Plains States 6 per cent, primarily from Montana; while the States east of the Mississippi originate approximately 8 per cent of the foreign truck traffic of Washington. The remaining States of the survey do not contribute more than 3 per cent of the foreign trucking in Washington.

The greatest proportion of foreign trucking in Oregon originates in Washington, California, and Idaho; Washington contributing 47 per cent, California 29 per cent, and Idaho 13 per cent—a total of nearly 90 per cent. There is a negligible amount of trucking into Oregon from any other State due to mountain barriers and the lack of suitable highway connections. Nevada, for example, lies directly south of Oregon but does not originate any truck traffic because the adjacent areas in both States are very thinly settled and there are no direct highway connections.

Of the foreign truck traffic in California, the greatest proportion originates in Oregon and Washington. Truck traffic from the adjoining States of Arizona and Nevada represents but 8 per cent and 7 per cent, respectively, of California's foreign truck traffic.

Foreign trucking into California is not so definitely restricted to near-by States as is the case in the other States of the survey. There is an appreciable percentage from all the States and geographical divisions, with the exception of New Mexico and New England. The industrial area of the Northeastern States, although considerably removed, originates 14 per cent of the foreign truck traffic in California, a larger fraction than that from any of the adjacent States except Oregon. However, the amount of foreign trucking in California is small in comparison with local truck traffic, and the effect of truck traffic from other States than Oregon and Washington is of little importance. On the other hand, the number of California trucks in other States is considerable, particularly in Nevada and Arizona.

FOREIGN TRUCK TRAFFIC IN MOUNTAIN STATES

The contribution of the Southeastern States to the Western States' foreign truck traffic is negligible.

In Nevada foreign trucking is largely confined to the principal east-and-west highway across the State, U. S. 40. California trucks entering at Reno on this highway represent 54 per cent of all foreign trucks, and Utah trucks comprise 30 per cent—a total of 84 per cent. Although U. S. 40 is a transcontinental highway, it does not attract exceptionally long-haul traffic through Nevada, as evidenced by the fact that very little of the foreign truck traffic in Nevada is registered in States east of Utah.

Long-haul foreign truck traffic is present in considerable quantity on the southern transcontinental route through Arizona and New Mexico. Compare Nevada with California, Arizona, and New Mexico. While California draws 14 per cent of its foreign truck traffic from the Northeastern States, the percentage of foreign trucks in Nevada from this area is only 1.5. In Arizona and New Mexico, however, the percentage of foreign truck traffic originating in the Northeastern States is 6.6 and 3.9, respectively.

The southern route, U. S. 80, is also of particular importance to Arizona in that it is a connection from

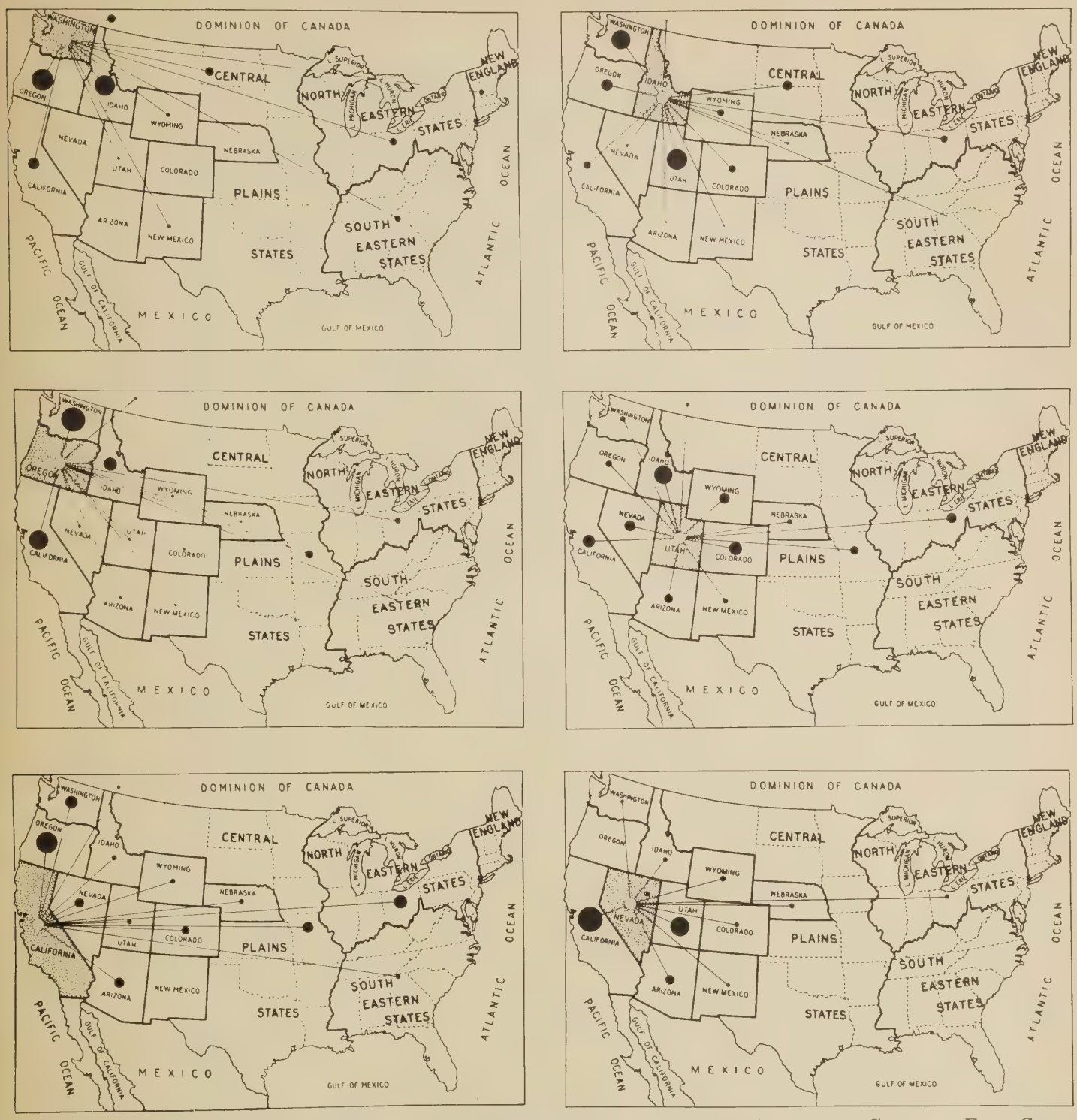


FIGURE 15.—ANALYSIS OF FOREIGN TRUCK TRAFFIC BY STATE OF REGISTRATION. THE AREA OF THE CIRCLE IN EACH CASE REPRESENTS THE PROPORTIONATE AMOUNT OF FOREIGN TRAFFIC REGISTERED IN THE AREA INDICATED

Los Angeles and San Diego to Phoenix and carries a large part of Arizona's foreign trucking, nearly 50 per cent of which originates in California.

There is apparently little interchange of trucks between New Mexico and Arizona, the predominant contributing areas of truck traffic to New Mexico being Colorado and the Central Plains States. Fifteen per cent of New Mexico's foreign trucks originate in Colorado and 64 per cent in the Central Plains States. Of this latter group of States, by far the most important is Texas, where 50 per cent of New Mexico's foreign truck traffic originates, reflecting the entry of trucks from El Paso.

In the remaining States of the survey—Idaho, Utah, Colorado, Wyoming, and Nebraska—the interstate movement of trucks is confined very largely to neighboring States.

The importance of U. S. 91 in northern Utah and southern Idaho is indicated by the marked interchange of trucks over this route as shown by the maps for these two States.

Wyoming receives most of its foreign trucking from Colorado and Nebraska, and Montana and South Dakota of the Central Plains States. In view of the proximity of Denver and Greeley in Colorado to Cheyenne, Wyo., it is not surprising that the principal

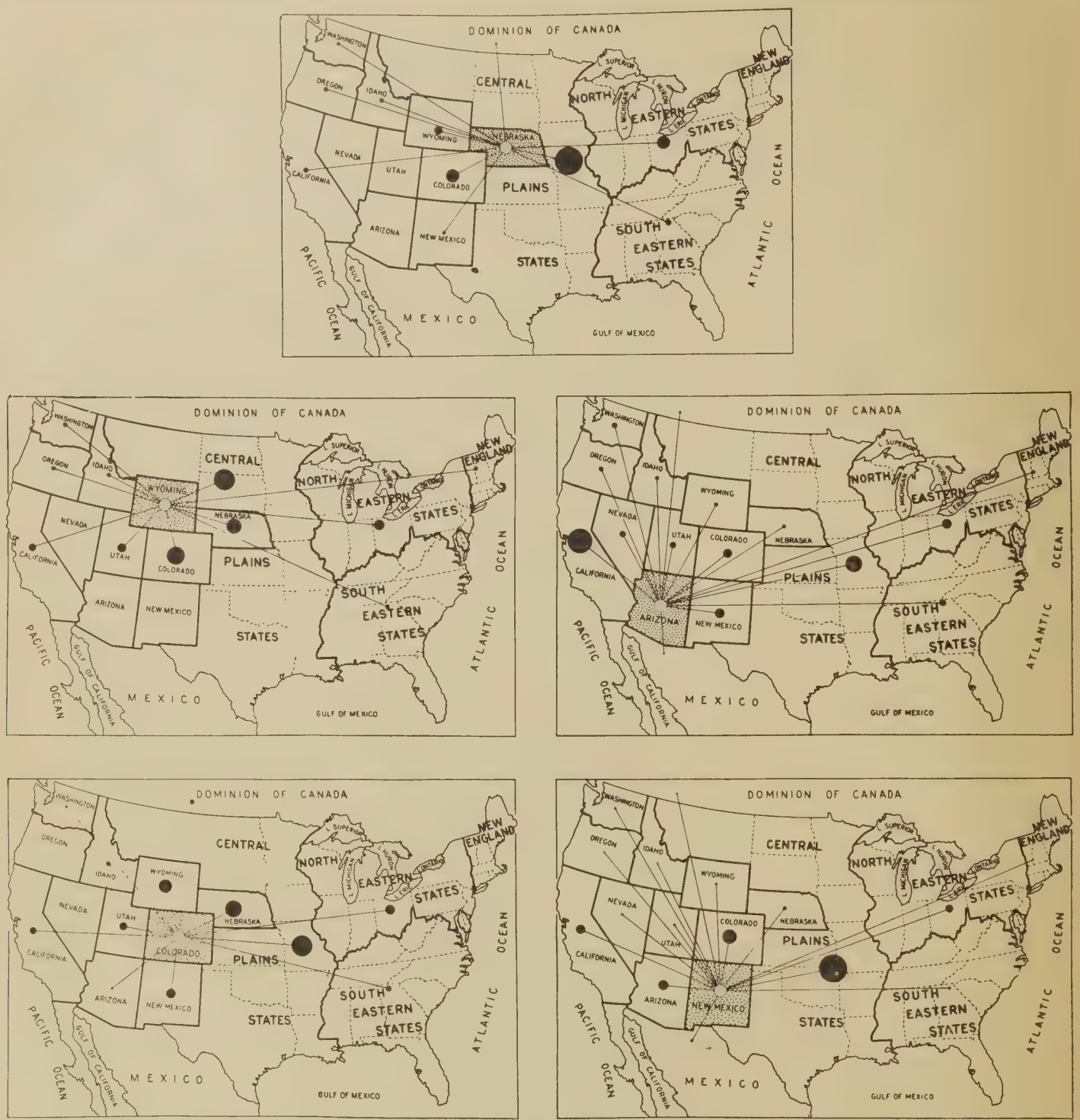


FIGURE 16.—ANALYSIS OF FOREIGN TRUCK TRAFFIC BY STATE OF REGISTRATION. THE AREA OF THE CIRCLE IN EACH CASE REPRESENTS THE PROPORTIONATE AMOUNT OF FOREIGN TRAFFIC REGISTERED IN THE AREA INDICATED

amount of Wyoming's foreign trucking, 26 per cent, should originate in Colorado. It is also evident that this is the principal interstate movement of trucks in Wyoming. While 14 per cent of Colorado's foreign trucks come from Wyoming, in no other State of the survey is there a large percentage of foreign truck traffic originating in Wyoming.

FOREIGN TRUCK TRAFFIC IN NEBRASKA

In the case of Colorado and Nebraska the effect of the mountain barriers to the west is clearly shown. In addition to the north-and-south movement of trucks into Colorado from New Mexico and Wyoming, the most important movement is from the prairie States on the east. Nebraska contributes more than 20 per cent and the Central Plains States contribute 36 per cent. The percentage from the other States of the survey west of the Rockies is negligible.

The foreign truck traffic in Nebraska is confined to neighboring States with an important proportion of long-distance travel from the Northeastern States. Except for the adjoining States of Wyoming and Colorado, the other States of the survey contribute a negligible amount. Kansas, Iowa, and South Dakota equally provide a total of nearly 50 per cent of the foreign trucks in Nebraska; and Missouri, 5.8 per cent, while 12 per cent comes from the Northeastern States.

COMMERCIAL TRUCK TRAFFIC

DURING the last three months of the survey the traffic data collected in the field were amplified to include a classification of truck operation as commercial or noncommercial. Since this phase of the study covered only July, August, and September, the conclusions drawn may be modified by seasonal changes, although they accurately represent conditions prevailing during this period of the survey.

One hundred and eighty thousand trucks were stopped by field observers and, by questioning the drivers, it was possible to separate the trucks into three classes, the definition for each class being in terms of the license carried by the operator, or depending upon the ownership of the loads carried. When load and truck were owned by the same agency, it was classified as owner operated. Trucks operating for hire over a fixed route, on regular schedule and at published rates, were classified as common carriers. Those operating essentially as common carriers but not over fixed routes or upon fixed schedules, and those operating under a hauling agreement with a few agencies, were termed contract haulers.

Taking the total number of trucks so classified as 100 per cent, the proportion in each of the three classes defined above was: Owner operated, 85.8 per cent; contract haulers, 8.7 per cent; common carriers, 5.5 per cent. The proportion of owner-operated trucks is six times that of all commercial trucks (common carriers and contract haulers).

Common-carrier trucks constitute less than 1½ per cent of all motor traffic, and approximately 80 per cent of these common carriers were engaged in intrastate hauling. Variation in demand for common-carrier service among the States is dependent mainly upon the variations in density and distribution of population within the area, and upon the amount of registration fee charged by the State.

In California 3.7 per cent of all trucks traveling throughout the State are common carriers, but common-carrier motor trucks registered in California were less than 1 per cent of all registered trucks. This indicates a usage of common-carrier trucks about four times as large as those in all other classifications.

In Table 12 and Figure 17 the detailed classification is presented by States. Commercial truck traffic is greatest in Nebraska, Idaho, Oregon, California, and New Mexico, and with the exception of Idaho and New Mexico, where nearly one-half the common-carrier haulage originates beyond State borders, these are the more densely populated States of the survey.

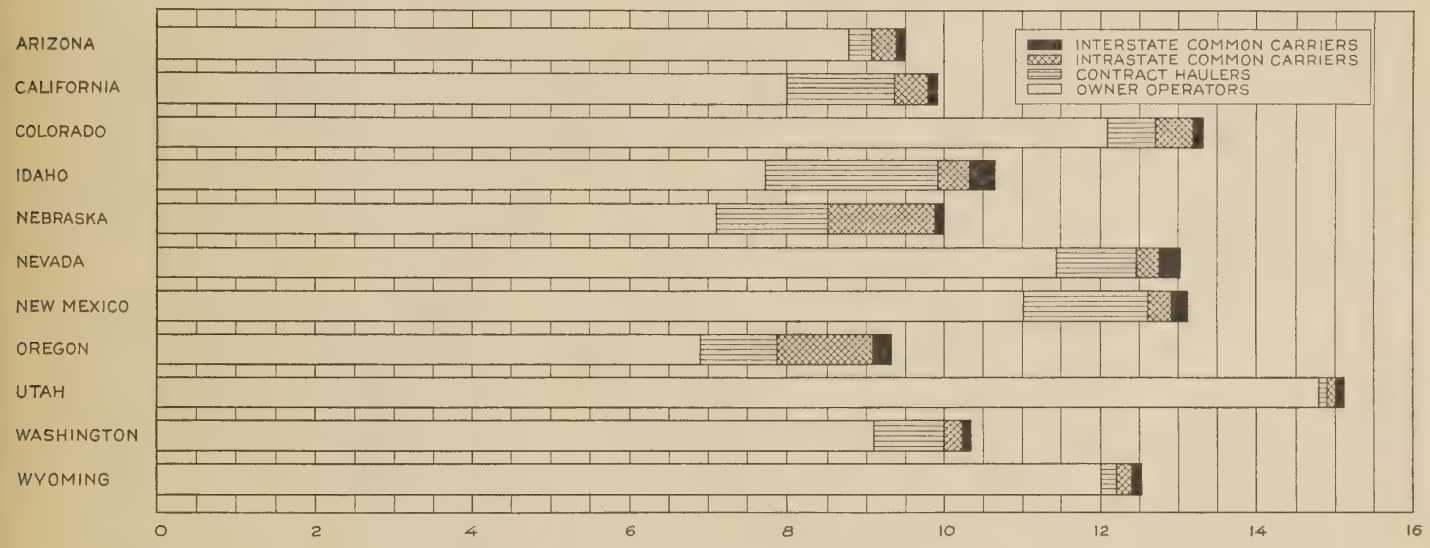


FIGURE 17.—MOTOR-TRUCK TRAFFIC AS PERCENTAGE OF ALL TRAFFIC AND DISTRIBUTED ACCORDING TO USAGE

TABLE 12.—*Percentage classification of motor traffic in Western States*

State	Passenger cars	Trucks			
		Owner operated	Contract operated	Intrastate common carriers	Interstate common carriers
Arizona	90.5	8.8	0.3	0.3	0.1
California	90.1	8.0	1.4	.4	.1
Colorado	86.7	12.1	.6	.5	.1
Idaho	89.4	7.7	2.2	.4	.3
Nebraska	90.0	7.1	1.4	1.4	.1
Nevada	87.0	11.4	1.0	.3	.3
New Mexico	86.9	11.0	1.6	.3	.2
Oregon	90.7	6.9	1.0	1.2	.2
Utah	84.9	14.8	.1	.1	.1
Washington	89.7	9.1	.9	.2	.1
Wyoming	87.5	12.0	.2	.2	.1

DAILY MILEAGE OF PASSENGER CARS

THE most frequent daily mileages of passenger cars are for short trips representing the movement of cars near cities and towns. Table 13 shows the percentage distribution of passenger cars by daily mileage for each State of the survey, and Figures 18 and 19 show these distributions graphically. Travel of less than 100 miles per day clearly predominates. In the combined distribution for all States, 11 per cent of all cars travel from 20 to 39 miles per day; 10.7 per cent from 40 to 59 miles; and 9.1 per cent from 60 to 79 miles. More than 40 per cent of all cars travel less than 100 miles per day, and 57 per cent less than 140 miles.

TABLE 13.—*Percentage distribution of passenger cars by daily mileage*

Distance traveled per day (miles)	Arizona	California	Colorado	Idaho	Nebraska	New Mexico	Nevada	Oregon	Utah	Washington	Wyoming	All states
Less than 20	6.0	4.9	6.1	8.8	5.7	6.1	10.4	8.1	3.5	5.5	5.8	6.3
20 to 39	8.4	9.8	12.4	13.3	12.3	8.6	14.0	12.7	10.0	11.3	10.7	11.0
40 to 59	8.7	10.6	11.4	11.2	12.0	7.6	11.9	11.4	10.8	11.3	11.1	10.7
60 to 79	7.7	9.7	9.9	9.4	9.7	6.8	9.3	9.1	9.3	10.5	8.2	9.1
80 to 99	4.8	6.4	5.7	6.1	6.6	4.6	5.3	5.9	9.3	7.1	5.9	6.0
100 to 119	6.7	8.3	7.9	7.1	8.5	5.8	6.8	7.7	9.6	8.9	7.7	7.8
120 to 139	6.3	6.5	6.2	4.9	6.5	4.3	4.9	6.0	6.2	7.2	5.8	6.1
140 to 159	5.7	6.4	6.1	5.9	6.6	4.8	5.6	6.0	5.9	7.1	5.3	6.1
160 to 179	3.3	4.2	4.2	3.7	4.3	4.4	3.0	3.3	4.0	5.6	4.1	4.0
180 to 199	3.1	3.1	2.7	3.2	2.5	2.7	2.3	2.6	3.9	3.9	2.6	2.9
200 to 219	7.1	6.3	5.2	5.1	4.9	6.4	4.1	5.7	5.9	7.5	6.1	6.0
220 to 239	3.1	3.6	2.9	2.4	2.5	3.9	2.0	2.7	2.4	2.9	3.0	3.0
240 to 259	5.2	4.5	3.8	3.5	3.4	5.8	3.8	3.8	4.0	2.9	4.3	4.2
260 to 279	3.5	2.3	2.3	2.6	1.9	3.7	1.9	2.2	3.0	1.5	2.8	2.5
280 to 299	1.9	1.6	1.4	1.8	1.2	2.7	1.3	1.8	1.6	1.0	2.0	1.7
300 to 319	5.0	3.0	3.0	3.5	3.1	6.3	3.6	3.6	3.0	1.7	4.2	3.6
320 to 339	2.0	1.3	1.7	1.3	1.5	2.8	1.6	1.4	1.6	1.0	2.2	1.6
340 to 359	2.5	1.5	1.8	1.7	1.5	3.1	1.8	1.5	1.4	.9	2.0	1.7
360 to 379	1.4	.9	1.1	.9	1.0	2.0	1.2	.8	.8	.5	1.3	1.0
380 to 399	.9	.6	.7	.6	.7	1.2	1.0	.6	.5	.3	.9	.7
400 to 419	2.0	1.2	1.1	1.1	1.2	2.2	1.4	1.2	1.0	.5	1.4	1.3
420 to 439	.9	.7	.5	.5	.6	1.0	.3	.4	.4	.2	.6	.6
440 to 459	.9	.9	.4	.3	.4	.8	.5	.4	.5	.2	.6	.6
460 to 479	.5	.5	.4	.2	.3	.5	.2	.2	.3	.1	.3	.3
480 to 499	.3	.3	.2	.2	.2	.3	.4	.2	.2	.1	.2	.2
500 and over	2.1	.9	.9	.6	.9	1.6	1.4	.7	.9	.3	.9	1.0
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

TABLE 14.—*Average and median distances traveled by foreign and local passenger cars*

State	Mileage of—					
	Foreign cars		Local cars		All cars	
	Average travel [1]	Median travel [2]	Average travel [1]	Median travel [2]	Average travel [1]	Median travel [2]
Arizona	242	239	113	88	173	145
California	247	245	144	116	150	121
Colorado	243	240	110	83	142	111
Idaho	212	209	94	66	135	103
Nebraska	240	236	114	89	139	109
New Mexico	242	244	103	71	184	167
Nevada	234	223	86	60	137	97
Oregon	224	220	107	78	137	107
Utah	231	222	111	92	146	115
Washington	189	184	115	97	128	110
Wyoming	229	225	104	76	154	122
All survey States	232	227	119	92	148	118

[1] Arithmetic average of daily mileage of cars.
[2] A distance so chosen that one-half of the cars travel more than this distance and one-half travel less.

The local movement (under 140 miles per day) constitutes 57 per cent of the passenger-car traffic on the highways of the survey and the through movement constitutes 43 per cent. Of the through traffic, trips of 140 to 240 miles per day are most frequent, and there is only a small percentage of trips in excess of 400 miles per day. Twenty-two per cent of all cars travel from 140 to 240 miles per day; 8.4 per cent from 240 to 300 miles; 8.6 per cent from 300 to 400 miles; and 4 per cent travel 400 miles or more per day.

AVERAGE AND MEDIAN DAILY TRAVEL OF FOREIGN AND LOCAL PASSENGER CARS

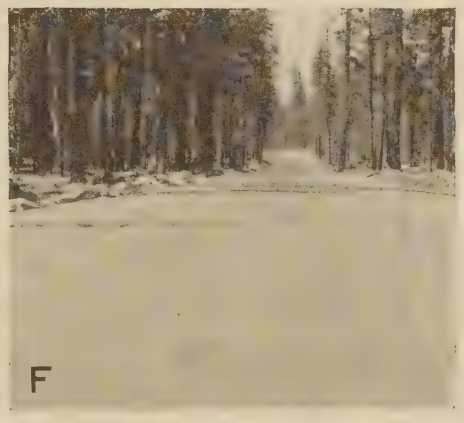
There is a close similarity in the characteristics of daily travel in different States despite wide differences in topography and type of population, as indicated by the average and median trip. (Table 14.) The average travel for all States is 148 miles and the median travel 118 miles per day, and there is little variation from these averages in individual States, except in the case of Arizona, New Mexico, and Wyoming, where a large amount of foreign through traffic results in abnormally long average daily travel.

For this reason the similarity of driving habits in various States is more strongly marked when only cars registered in the State of observation are examined. The distribution of these cars by daily mileage for all States, Table 15, is typical. Table 16 presents similar data for foreign passenger cars. There is, in general, a greater concentration of local cars than of all cars in the mileage groups below 180 miles and a smaller percentage of local cars above this point. Nearly 38 per cent of the local vehicles traveled from 20 to 79 miles and more than 50 per cent traveled less than 100 miles. The local movement of cars of local registration is of major significance, nearly 70 per cent traveling less than 140 miles.

Such differences as do occur between States in the distribution of daily mileage of local passenger cars are the result of differences in the location of cities. Utah, for example, is characterized by one large city, Salt Lake City, and a concentration of population in several smaller cities on the east shore of Salt Lake, situated along the main north-and-south highway, U. S. 91.

TABLE 15.—*Percentage distribution of passenger cars registered in State of observation by daily mileage*

Mileage groups	Arizona	California	Colorado	Idaho	Nebraska	New Mexico	Nevada	Oregon	Utah	Washington	Wyoming	All survey States
Less than 20	9.3	5.0	7.5	12.5	6.8	12.9	14.8	10.3	4.5	6.2	9.1	7.9
20 to 39	13.3	10.2	15.6	18.6	14.6	17.1	19.6	15.7	12.9	12.9	16.3	13.8
40 to 59	13.4	11.1	14.1	15.1	14.0	14.0	16.0	13.9	14.1	12.6	16.0	13.1
60 to 79	11.5	10.1	11.6	11.8	11.1	10.9	11.9	10.9	11.6	11.6	11.1	10.9
80 to 99	6.4	6.6	6.7	6.7	7.4	6.8	6.0	6.9	11.5	7.7	7.6	7.0
100 to 119	8.8	8.7	8.8	7.4	9.2	7.6	7.7	8.6	11.4	9.3	8.8	8.8
120 to 139	7.6	6.7	6.7	5.0	7.0	4.7	5.0	6.5	7.0	7.4	6.3	6.7
140 to 159	6.7	6.5	6.5	5.5	6.7	4.9	5.1	6.0	6.2	7.1	5.1	6.3
160 to 179	3.2	4.3	4.3	3.4	4.3	3.6	2.7	3.1	3.6	5.2	3.5	3.9
180 to 199	2.5	3.1	2.4	2.3	2.4	1.7	1.5	2.2	3.2	3.5	1.8	2.6
200 to 219	4.7	6.1	4.1	3.4	4.4	4.1	2.5	4.3	4.2	6.0	4.3	4.9
220 to 239	2.1	3.4	2.2	1.3	2.1	2.0	1.4	1.9	1.6	2.5	1.5	2.4
240 to 259	2.8	4.2	2.6	1.7	2.6	2.5	1.6	2.3	2.0	2.4	1.8	2.9
260 to 279	1.5	2.2	1.5	1.1	1.3	1.2	.8	1.3	1.5	1.1	1.1	1.5
280 to 299	.8	1.5	.8	.8	.7	.7	.6	.9	.7	.7	.7	1.0
300 to 319	2.0	2.6	1.3	1.2	1.7	1.7	.9	2.0	1.2	1.2	1.5	1.9
320 to 339	.5	1.1	.7	.5	.8	.9	.6	.7	.7	.6	.7	.8
340 to 359	.6	1.3	.7	.5	.7	.6	.4	.7	.6	.6	.7	.8
360 to 379	.3	.8	.4	.2	.4	.4	.3	.4	.3	.3	.5	.5
380 to 399	.2	.5	.3	.2	.3	.2	-----	.3	.2	.2	.3	.3
400 to 419	.6	1.0	.4	.2	.5	.4	.1	.5	.3	.3	.5	.6
420 to 439	.2	.6	.2	.1	.2	.2	-----	.1	.1	.1	.2	.3
440 to 459	.2	.8	.1	.1	.2	.2	.2	.1	.1	.1	.1	.3
460 to 479	.1	.5	.1	.1	.1	.1	.1	.1	.1	.1	.1	.2
480 to 499	.1	.3	.1	-----	.1	.1	.1	.1	.1	-----	-----	.1
500 and over	.6	.8	.3	.3	.4	.5	.1	.2	.3	.3	.4	.5
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0



TYPICAL WESTERN ROAD SURFACES

A—Gravel in Wyoming. B—Bituminous Concrete in Oregon. C—Gravel in Nevada. D—Portland Cement Concrete in California. E—Crushed Rock in Idaho. F—Bituminous Surface Treatment in California. G—Crushed Caliche in New Mexico. H—Graded Earth in New Mexico. I—Oil-Treated Gravel in Idaho

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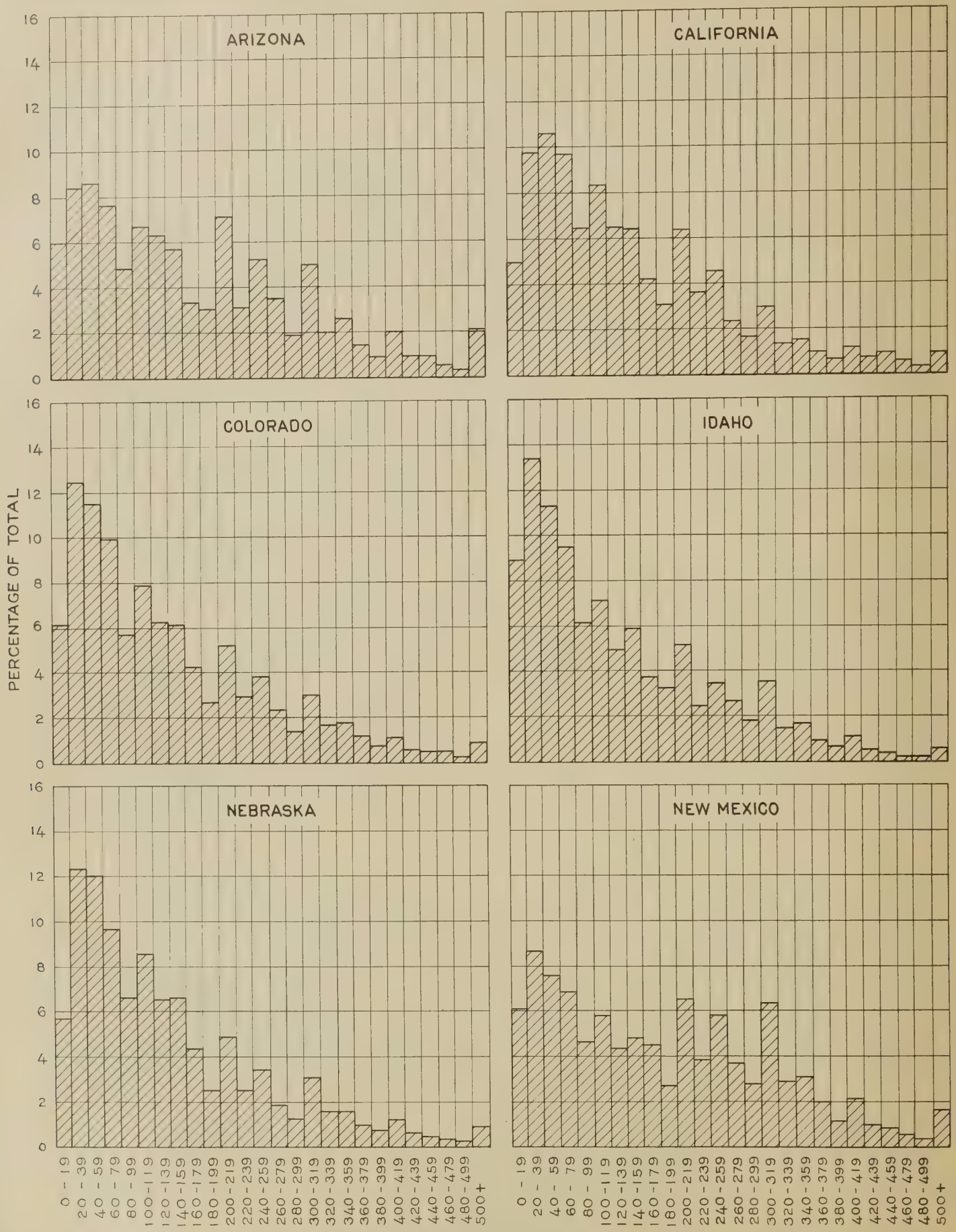


FIGURE 18.—PERCENTAGE DISTRIBUTION OF PASSENGER CARS BY DAILY MILEAGE

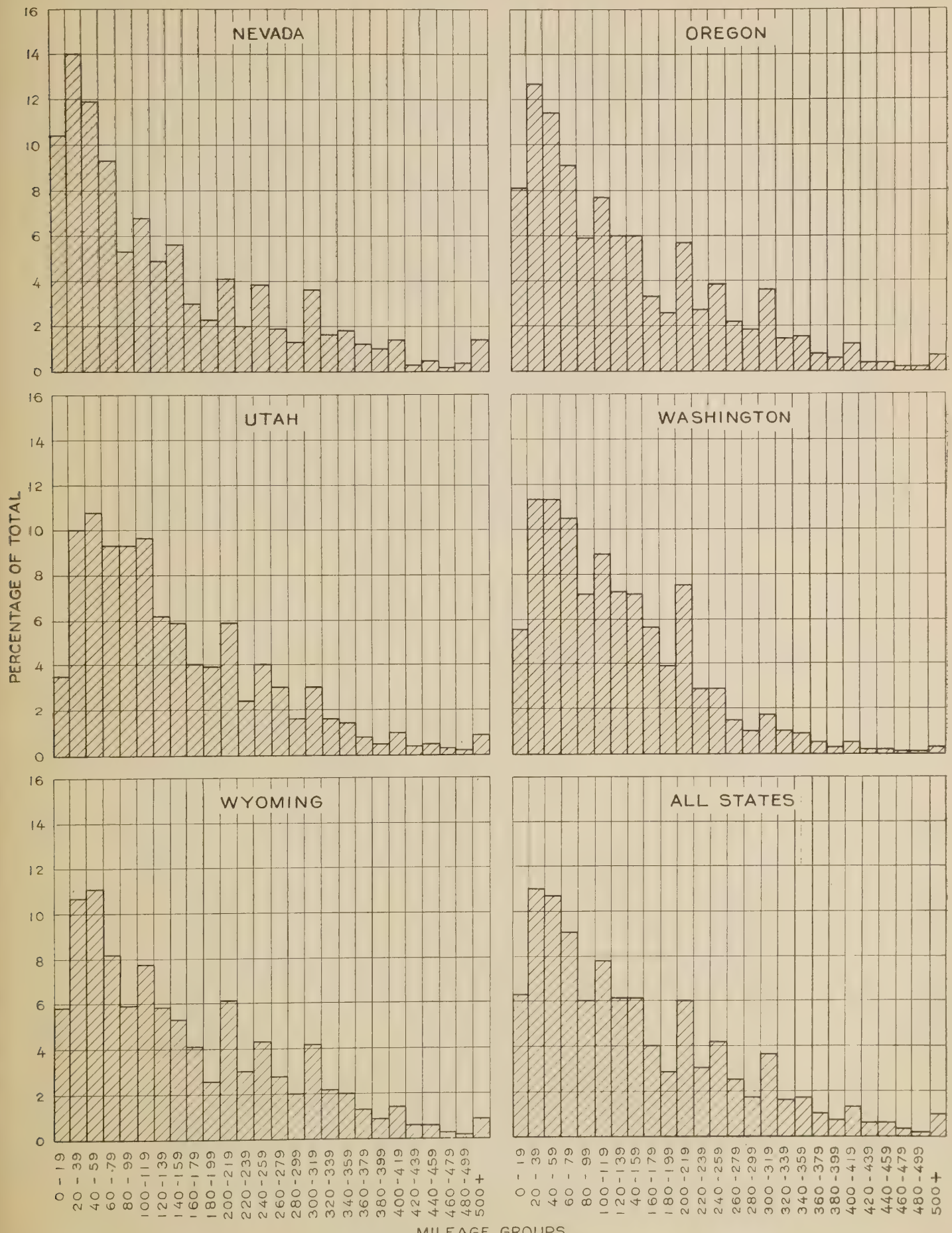


FIGURE 19.—PERCENTAGE DISTRIBUTION OF PASSENGER CARS BY DAILY MILEAGE

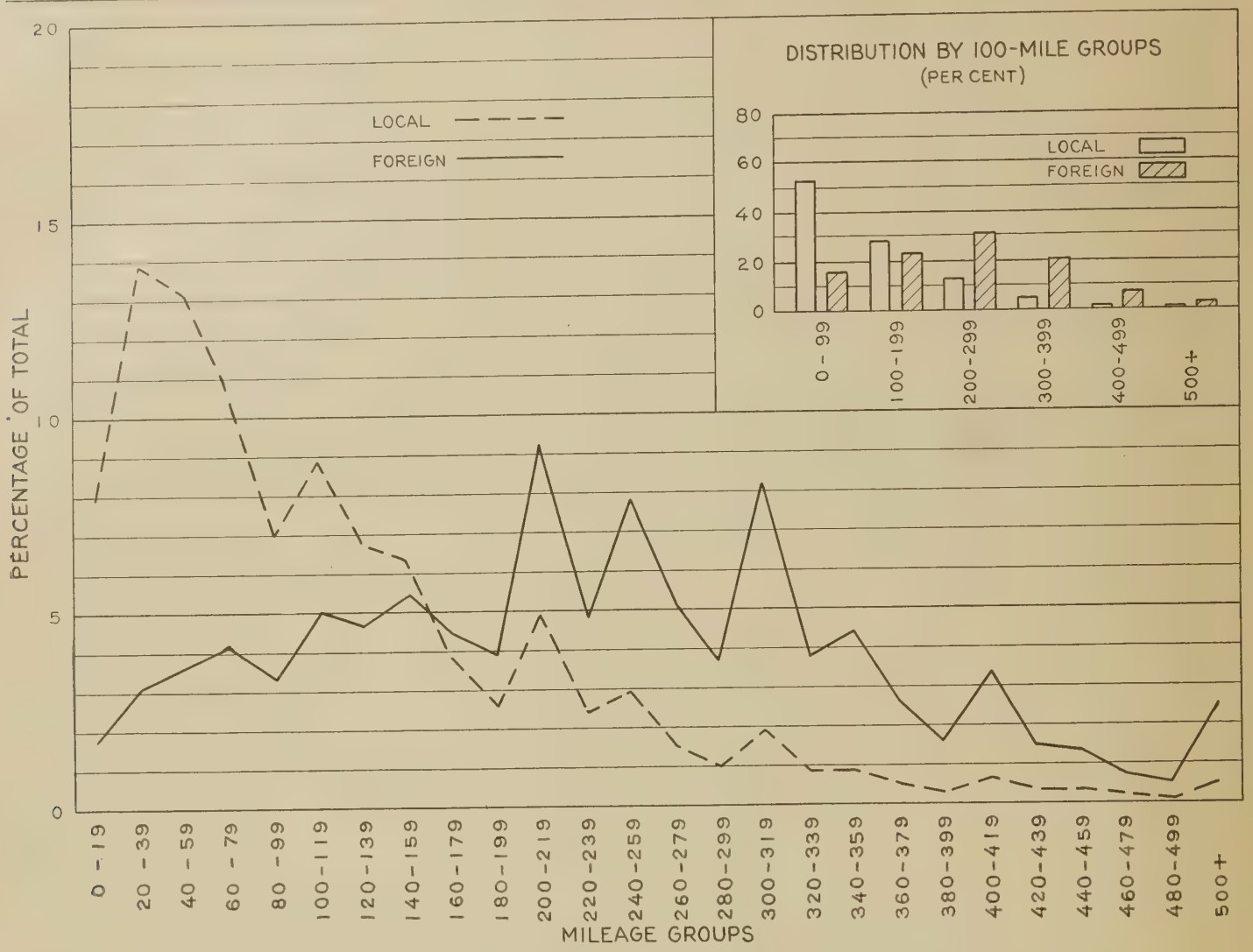


FIGURE 20.—FOREIGN AND LOCAL PASSENGER CARS BY LENGTH OF TRIP

TABLE 16.—*Percentage distribution of foreign passenger cars by daily mileage*

Mileage groups	Arizona	California	Colorado	Idaho	Nebraska	New Mexico	Nevada	Oregon	Utah	Washington	Wyoming	All survey States
Less than 20	2.5	1.1	1.1	1.8	0.9	1.3	2.5	1.9	1.0	1.8	1.0	1.7
20 to 39	2.9	2.1	2.3	3.6	2.5	2.6	3.6	4.1	2.8	3.4	2.2	3.1
40 to 59	3.4	2.8	3.0	3.9	3.4	2.9	4.3	4.2	3.0	5.0	3.5	3.6
60 to 79	3.5	3.3	4.3	5.3	4.4	3.9	4.5	4.3	3.6	5.5	3.8	4.1
80 to 99	3.0	2.3	2.8	5.0	3.7	3.0	3.8	3.1	4.1	4.2	3.3	3.3
100 to 119	4.4	3.8	5.1	6.4	5.8	4.5	5.0	4.9	5.2	7.4	6.3	5.0
120 to 139	4.9	4.1	4.5	4.6	4.8	3.9	4.7	4.4	4.1	7.0	5.3	4.6
140 to 159	4.4	5.4	5.3	6.6	6.2	4.7	6.7	5.8	4.9	6.9	5.6	5.4
160 to 179	3.5	4.2	4.3	4.3	4.6	5.0	3.8	3.8	4.7	7.7	5.2	4.4
180 to 199	3.8	3.6	3.5	5.0	3.2	3.4	3.6	3.8	6.1	5.7	3.9	3.9
200 to 219	9.7	8.8	8.8	8.2	7.1	8.0	7.0	9.8	10.0	14.5	8.6	9.2
220 to 239	4.1	6.0	5.1	4.2	4.3	5.3	3.3	5.1	4.1	5.0	5.2	4.8
240 to 259	7.8	9.8	7.4	6.9	6.8	8.3	7.6	8.0	8.7	5.3	7.6	7.8
260 to 279	5.6	5.1	4.9	5.6	4.2	5.4	3.6	5.0	6.8	3.6	5.5	5.1
280 to 299	3.2	4.2	3.5	3.7	3.0	4.2	2.4	4.2	4.0	2.4	4.2	3.7
300 to 319	8.3	9.0	8.1	7.6	8.7	9.5	8.5	8.2	7.3	3.9	8.2	8.2
320 to 339	3.6	4.2	4.7	3.1	4.4	4.1	3.5	3.4	4.1	2.4	4.6	3.8
340 to 359	4.7	4.9	5.3	4.1	4.8	4.9	4.3	3.9	3.3	2.5	3.9	4.4
360 to 379	2.7	2.6	3.1	2.2	3.3	3.1	2.9	2.3	2.2	1.6	2.5	2.6
380 to 399	1.6	1.6	2.0	1.6	2.1	1.8	2.9	1.4	1.3	.7	1.8	1.6
400 to 419	3.7	3.7	3.2	2.7	3.9	3.5	3.8	3.1	2.7	1.4	2.8	3.3
420 to 439	1.6	1.9	1.6	1.2	2.0	1.6	.9	1.1	1.1	.4	1.3	1.4
440 to 459	1.7	1.8	1.4	.6	1.4	1.3	1.1	1.1	1.2	.6	1.2	1.3
460 to 479	1.0	.9	1.1	.4	.9	.8	.6	.5	.7	.2	.5	.7
480 to 499	.6	.6	.7	.4	.6	.5	1.0	.5	.6	.1	.4	.5
500 and over	3.8	2.2	2.9	1.0	3.0	2.5	4.1	2.1	2.4	.8	1.6	2.5
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

North of Salt Lake City are Ogden, Brigham, and Logan, and south is Provo. Logan is 76 miles north and Provo is 36 miles south of Salt Lake City, and the average distance between the five cities is but 28 miles. These mileages do not include that within city limits. While the section of highway from Logan to Provo is less than 7 per cent of the total Federal-aid mileage of the State, the passenger-car traffic on this section of road is more than 40 per cent of the total vehicle mileage observed in the State.

The effect of this situation is reflected in the mileage distribution for Utah (Table 15) where a larger proportion of cars than in other States are traveling distances from 40 to 120 miles per day. The distribution is characterized by a flat appearance over this section, there being no sharp concentration in any 20-mile group. (Fig. 19.)

The distribution for Nevada, on the other hand, shows a marked concentration of daily travel in the 20 to 39 mile group, 19.6 per cent of all local cars falling in this group, and 50 per cent traveling less than 60 miles per day. The explanation is clearly in the concentration of Nevada's population in and near Reno, where less than 7 per cent of the Federal-aid system carries

AN OILED GRAVEL ROAD ON U. S. 30 NEAR LARAMIE, WYO.

more than 30 per cent of the total vehicle-mileage on the system.

Except for the local movement of cars over State lines, foreign passenger-car traffic is almost entirely long-distance through traffic, contrasting sharply with local traffic in this respect. (Fig. 20.) There is no concentration of foreign cars below 100 miles per day as is the case with local cars, and in all the mileage groups of less than 160 miles, the percentage of local cars is higher than the prcentage of foreign cars. Above 160 miles per day the percentage of local cars falls rapidly and the percentage of foreign cars rises to a high point at 200 miles per day and does not decline sharply until 360 miles per day is reached.

Only 15.8 per cent of all foreign cars travel less than 100 miles per day; while 23.3 per cent travel from 100 to 200 miles; 30.6 per cent from 200 to 300 miles; 20.6 per cent from 300 to 400 miles; and 9.7 per cent more than 400 miles. The greatest concentration is between 200 and 320 miles, amounting to approximately 39 per cent of all foreign cars. The average daily trip of all foreign cars is 232 miles, nearly twice that of all local cars, and the median daily trip of all foreign cars is 227 miles, more than twice that of all local cars.

SITUS OF OWNERSHIP OF PASSENGER CARS

THE situs of ownership of passenger cars is presented in Table 17 and Figure 21. The predominance of city-owned cars is strongly marked. In only three States, Nebraska, Nevada, and Wyoming, does the proportion of city-owned cars fall below 50 per cent, while in California the proportion is 73.2 per cent. For all survey States, city-owned cars constitute 60.9 per cent of the total.

TABLE 17.—*Percentages of passenger vehicles according to situs of ownership*

State	Percentage of passenger vehicles from—			State	Percentage of passenger vehicles from—		
	Farms	Villages	Cities		Farms	Villages	Cities
Arizona	13.3	20.2	66.5	Oregon	19.6	21.2	59.2
California	13.4	13.4	73.2	Utah	12.8	20.7	66.5
Colorado	19.7	19.6	60.7	Washington	19.5	20.1	60.4
Idaho	27.2	22.4	50.4	Wyoming	23.5	30.7	45.8
Nebraska	28.6	27.2	44.2				
New Mexico	19.8	21.8	58.4	All survey States	18.7	20.4	60.9
Nevada	13.6	42.0	44.4				

Rural cars are divided nearly equally between farms and villages except in Nevada, where, as in the case of trucks, farm cars fall considerably below village cars.

A comparison of truck situs and passenger-car situs indicates that in every State the proportion of city-owned cars is much higher than that of city-owned trucks. The proportion of village-owned cars is less than that of trucks, except in Idaho, where the percentage of village trucks and village cars is practically equal. The proportion of farm-owned cars is considerably less than the proportion of farm-owned trucks in all the States except Nebraska where the proportions of farm-owned trucks and passenger cars are approximately equal.

When passenger-car situs is compared with rural and urban population (Table 18) the relationship is found to be the reverse of that which exists in the case of the situs of truck ownership. The fact that the percentage of rural-owned cars is definitely lower than the percentage of rural population, and that city-owned cars constitute a higher proportion of all cars than urban population does of total population, indicates a considerably greater per capita use of the highway system by the urban population. This relationship exists in all the States but California, where the proportions of both cars and population are practically identical.

Table 18 gives some evidence of the situs of the tourist or traveling class of motorist. In three States of the survey, Arizona, New Mexico, and Idaho, where the proportion of foreign traffic is highest and urban population is low, the proportion of city-owned cars is exceptionally high when related to the proportion of urban population, indicating that the majority of foreign cars are city owned.

TABLE 18.—*Comparison of rural and urban distribution of passenger cars and population on basis of percentage of total of each in each State*

State	Rural		Urban		State	Rural		Urban	
	Cars	Population	Cars	Population		Cars	Population	Cars	Population
Arizona	33.5	65.6	66.5	34.4	Oregon	40.8	48.7	59.2	51.3
California	26.8	26.7	73.2	73.3	Utah	33.5	47.6	66.5	52.4
Colorado	39.3	49.8	60.7	50.2	Washington	39.6	43.4	60.4	56.6
Idaho	49.6	70.9	50.4	29.1	Wyoming	54.2	68.9	45.8	31.1
Nebraska	55.8	64.7	44.2	35.3					
New Mexico	41.6	74.8	58.4	25.2	All survey States	39.1	42.7	60.9	57.3
Nevada	55.6	62.2	44.4	37.8					

DAILY MILEAGE BY SITUS CLASSES

Passenger cars of city ownership not only constitute the majority of passenger cars, but also have the highest degree of individual use as measured by their daily mileage. Figure 22 shows the percentage distribution by daily mileage of farm, village, and city owned cars for all States combined, and Tables 19, 20 and 21 show the same information for individual States.

TABLE 19.—*Percentage distribution of city cars by daily mileage*

Mileage groups	Arizona	California	Colorado	Idaho	Nebraska	New Mexico	Nevada	Oregon	Utah	Washington	Wyoming	All survey States
Less than 20	3.9	3.4	3.2	4.1	1.6	2.9	4.5	3.5	2.1	2.2	3.5	3.2
20 to 39	6.3	7.4	8.1	7.4	4.9	4.8	8.6	8.8	7.3	6.6	6.6	7.2
40 to 59	7.3	9.5	9.6	8.5	7.6	5.1	8.9	9.4	9.4	8.7	8.0	8.6
60 to 79	7.0	9.5	9.6	9.2	9.1	5.6	7.4	8.4	8.9	10.1	5.0	8.5
80 to 99	4.6	6.4	6.2	6.7	7.1	4.1	4.9	6.2	10.8	7.4	4.9	6.2
100 to 119	6.7	8.8	9.8	8.3	10.4	5.5	6.3	8.6	10.8	9.7	7.6	8.5
120 to 139	6.4	7.0	7.8	5.5	8.8	4.6	5.5	7.2	6.9	8.3	6.2	7.0
140 to 159	5.9	6.9	7.6	7.4	8.6	5.0	6.3	6.9	5.9	8.3	5.6	6.9
160 to 179	3.5	4.5	5.5	4.7	5.6	5.1	3.7	3.9	3.8	7.1	5.1	4.6
180 to 199	3.3	3.4	3.3	4.2	3.3	3.1	2.9	3.1	4.2	4.8	3.2	3.4
200 to 219	7.7	6.8	5.0	6.4	6.1	7.3	5.8	6.7	6.2	9.6	7.7	6.9
220 to 239	3.4	4.0	2.9	2.9	3.2	4.8	2.5	3.3	2.6	3.6	3.8	3.6
240 to 259	6.0	5.0	3.8	4.2	4.4	7.1	5.4	4.7	4.0	3.4	5.1	4.9
260 to 279	4.1	2.5	2.3	3.6	2.5	4.5	3.0	2.9	3.4	1.8	3.9	3.0
280 to 299	2.1	1.8	1.5	2.5	1.5	3.4	2.2	2.3	1.7	1.1	3.2	2.0
300 to 319	5.7	3.2	3.4	4.2	4.0	7.5	6.2	4.6	3.3	2.0	5.9	4.3
320 to 339	2.2	1.4	2.0	1.8	2.0	3.5	2.4	1.8	2.0	1.2	3.2	1.9
340 to 359	2.8	1.7	2.1	2.3	2.0	3.9	2.6	1.9	1.6	1.2	2.7	2.1
360 to 379	1.8	1.0	1.3	1.2	1.3	2.5	1.7	1.1	.9	.7	1.8	1.3
380 to 399	1.0	.7	.8	1.0	1.0	1.4	1.6	.8	.6	.4	1.2	.8
400 to 419	2.5	1.3	1.2	1.5	1.6	2.7	2.2	1.5	1.1	.7	2.0	1.6
420 to 439	1.0	.7	.7	.7	.8	1.4	.6	.5	.5	.2	1.0	.7
440 to 459	1.1	1.1	.5	.4	.6	1.1	1.0	.5	.5	.3	.8	.8
460 to 479	.7	.6	.5	.3	.4	.7	.5	.2	.3	.1	.4	.4
480 to 499	.4	.4	.2	.3	.2	.4	.7	.2	.2	.1	.3	.3
500 and over	2.6	1.0	1.1	.7	1.4	2.0	2.6	1.0	1.0	.4	1.3	1.3
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

TABLE 20.—*Percentage distribution of village cars by daily mileage*

Mileage groups	Arizona	California	Colorado	Idaho	Nebraska	New Mexico	Nevada	Oregon	Utah	Washington	Wyoming	All survey States
Less than 20	8.8	6.3	6.2	7.9	4.3	7.5	15.9	9.9	4.5	8.1	5.7	7.7
20 to 39	11.3	13.5	15.3	14.4	12.6	11.5	18.4	15.6	12.9	13.8	10.9	13.7
40 to 59	10.7	13.3	12.4	12.8	14.4	9.8	14.0	14.0	12.1	14.0	12.0	13.0
60 to 79	9.2	10.9	10.8	10.4	10.9	8.4	10.7	10.9	9.6	11.2	10.3	10.4
80 to 99	5.7	6.4	5.7	6.6	7.3	5.6	5.8	6.0	7.2	7.5	7.3	6.4
100 to 119	6.9	7.5	7.0	7.1	8.6	6.3	6.8	7.4	7.6	9.2	9.3	7.6
120 to 139	6.8	5.8	5.6	5.3	6.0	4.1	4.5	5.3	5.4	7.0	7.0	5.7
140 to 159	5.4	5.7	5.5	5.6	6.1	5.0	4.5	5.7	6.1	6.4	5.9	5.7
160 to 179	3.3	3.8	3.4	3.4	4.3	4.0	2.5	2.8	4.8	3.7	3.6	3.5
180 to 199	2.7	2.7	2.6	2.6	2.2	2.5	1.8	2.2	3.8	2.9	2.4	2.5
200 to 219	6.5	5.5	5.1	4.6	5.0	5.7	3.1	5.1	5.8	4.8	4.9	5.2
220 to 239	2.5	2.7	2.7	2.4	2.2	2.9	1.7	2.2	2.5	2.2	2.6	2.4
240 to 259	3.8	3.8	3.3	3.8	3.3	4.6	2.4	3.1	4.4	2.6	4.0	3.5
260 to 279	2.3	1.9	2.1	2.0	1.8	2.9	1.0	1.7	3.0	1.2	2.0	1.9
280 to 299	1.5	1.4	1.3	1.4	1.2	2.1	.7	1.1	1.6	.9	1.2	1.3
300 to 319	3.7	2.5	3.0	3.2	2.8	5.2	1.3	2.5	2.6	1.4	2.8	2.8
320 to 339	1.3	1.1	1.4	1.4	1.3	2.2	1.0	.8	1.5	.7	1.6	1.2
340 to 359	2.1	1.2	1.6	1.7	1.4	2.4	1.0	1.1	.8	.6	1.6	1.4
360 to 379	.9	.8	1.0	.8	.9	1.4	.6	.5	.8	.3	.9	.8
380 to 399	.6	.4	.6	.3	.5	1.0	.6	.3	.5	.3	.8	.5
400 to 419	1.3	.9	1.2	.8	1.1	1.9	.9	.7	.7	.4	1.1	1.0
420 to 439	.5	.5	.4	.4	.4	.6	.0	.3	.3	.1	.6	.4
440 to 459	.6	.4	.5	.3	.4	.5	.2	.2	.5	.1	.5	.3
460 to 479	.3	.2	.3	.2	.2	.4	.0	.1	.1	.1	.2	.2
480 to 499	.2	.2	.2	.1	.1	.2	.1	.1	.2	.1	.1	.2
500 and over	1.1	.6	.8	.5	.7	1.3	.5	.4	.7	.4	.7	.7
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

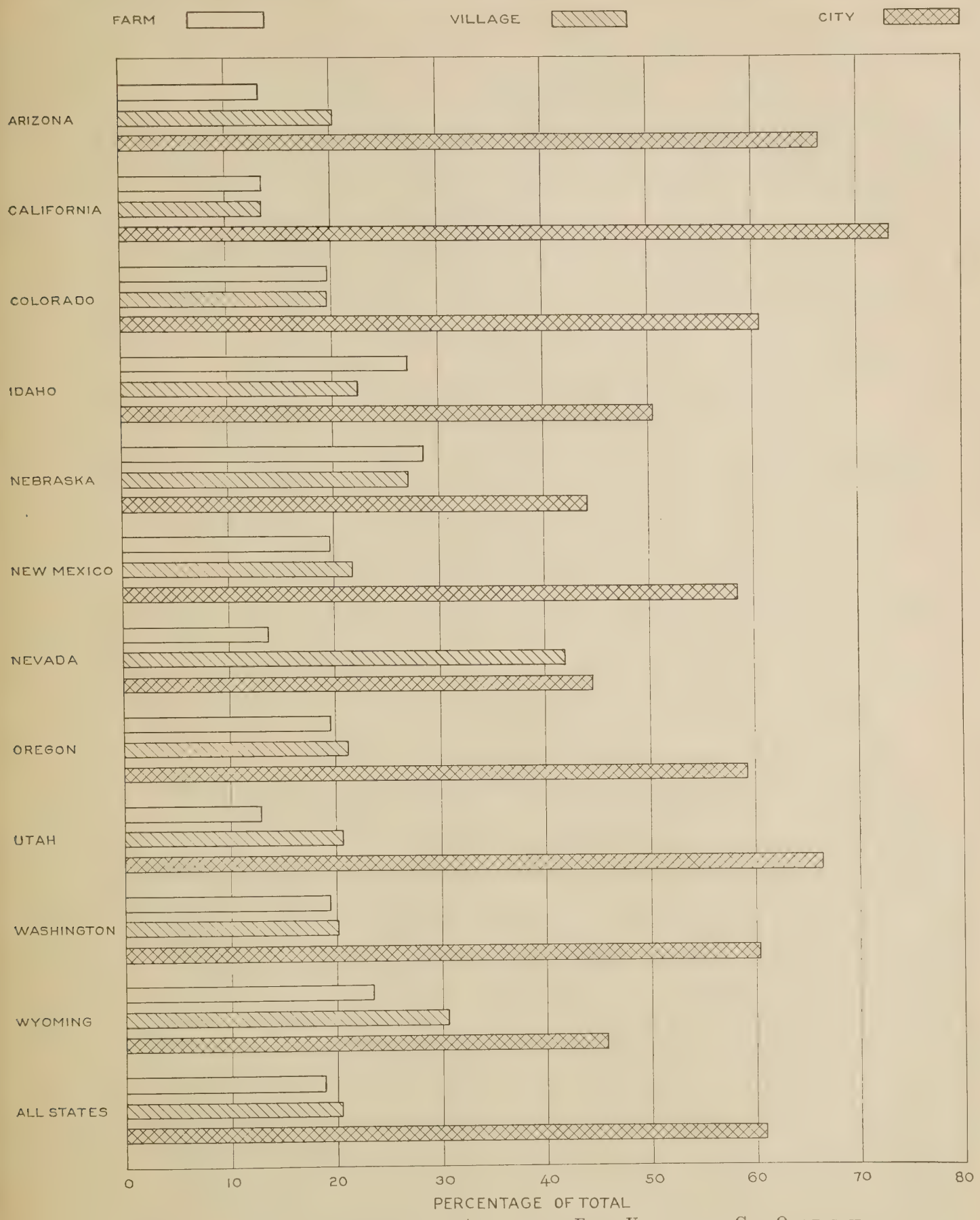


FIGURE 21.—PASSENGER CARS DISTRIBUTED ACCORDING TO FARM, VILLAGE, AND CITY OWNERSHIP

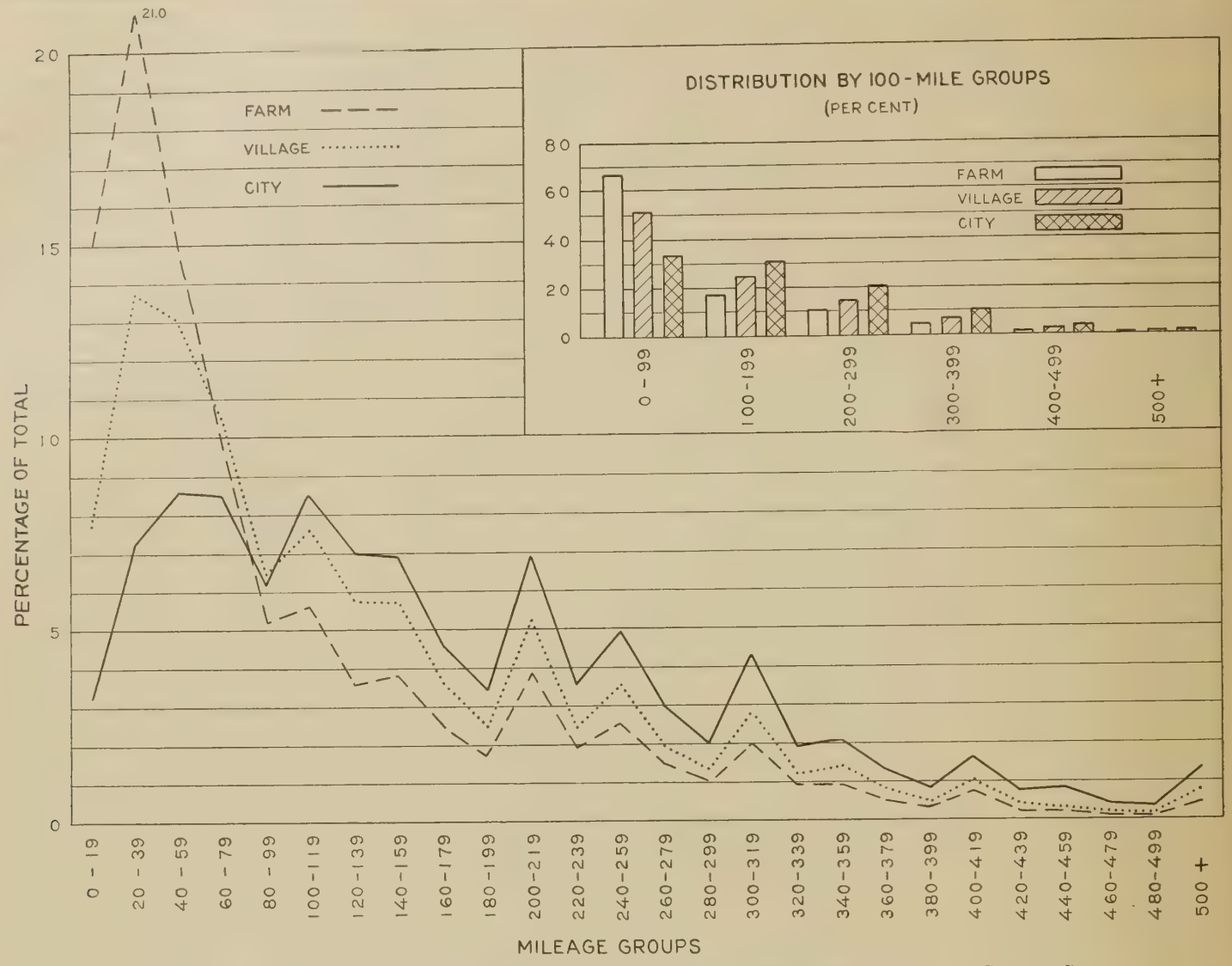


FIGURE 22.—DAILY MILEAGE OF PASSENGER CARS BY SITUS CLASSES, AVERAGE FOR ALL SURVEY STATES

TABLE 21.—*Percentage distribution of farm cars by daily mileage*

Mileage groups	Arizona	California	Colorado	Idaho	Nebraska	New Mexico	Nevada	Oregon	Utah	Washington	Wyoming	All survey States
Less than 20	12.7	11.2	15.0	18.7	13.2	13.6	13.3	20.6	10.0	12.9	9.8	15.0
20 to 39	15.5	19.3	23.2	24.2	23.5	16.8	18.4	22.0	19.4	23.7	18.4	21.0
40 to 59	13.2	14.3	16.0	14.9	16.4	12.5	14.7	14.9	15.5	16.6	16.3	15.0
60 to 79	9.0	10.0	9.5	9.2	9.7	8.4	11.5	9.6	9.7	11.0	11.8	9.7
80 to 99	4.7	6.2	4.4	4.6	5.1	4.6	5.6	5.1	5.7	5.7	6.2	5.2
100 to 119	6.3	6.6	3.2	4.8	5.5	5.7	7.7	5.3	6.2	6.4	5.8	5.6
120 to 139	4.3	4.7	1.6	3.0	3.5	3.4	4.3	3.3	3.7	4.3	4.0	3.6
140 to 159	4.4	4.6	2.1	3.4	4.0	4.0	6.4	3.4	5.2	4.2	3.3	3.8
160 to 179	2.8	2.8	1.4	2.1	2.5	2.8	2.2	1.8	3.5	2.9	2.5	2.4
180 to 199	2.1	2.0	.8	1.6	1.5	1.6	1.9	1.5	2.6	1.9	1.7	1.7
200 to 219	5.0	4.3	5.4	2.8	3.1	4.7	1.7	3.1	4.8	3.3	4.2	3.8
220 to 239	2.1	2.3	3.4	1.3	1.5	2.5	1.7	1.4	1.4	1.4	2.0	1.9
240 to 259	3.3	2.7	4.3	1.9	2.2	3.6	1.7	2.0	3.0	1.6	2.7	2.5
260 to 279	2.3	1.6	2.2	1.3	1.1	2.1	1.4	1.0	.7	.9	1.8	1.5
280 to 299	1.2	.9	1.4	.9	.7	1.6	.4	.8	1.1	.6	1.2	1.0
300 to 319	3.5	1.7	1.7	2.1	2.0	3.8	1.7	1.6	2.0	.9	2.5	2.0
320 to 339	1.9	.9	.9	.7	.8	1.7	1.0	.5	.6	.5	1.2	.9
340 to 359	1.5	1.0	.9	.7	.9	1.7	1.7	.6	1.0	.4	1.3	.9
360 to 379	.7	.5	.6	.3	.6	1.0	.7	.4	.4	.2	.8	.5
380 to 399	.5	.4	.3	.3	.4	.6	.3	.1	.4	.1	.6	.3
400 to 419	1.0	.6	.6	.6	.7	1.2	.6	.4	1.1	.3	.8	.7
420 to 439	.5	.3	.2	.2	.3	.4	.4	.1	.1	.1	.2	.2
440 to 459	.3	.3	.3	.1	.3	.4	.1	.1	.2	.0	.1	.2
460 to 479	.2	.2	.1	.1	.1	.3	.1	.1	.1	.0	.1	.1
480 to 499	.1	.1	.1	.0	.1	.2	.0	.1	.1	.0	.1	.1
500 and over	.9	.5	.4	.2	.4	.8	.5	.2	.5	.1	.6	.4
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

In Figure 22 the greater proportion of city-owned cars traveling distances above 100 miles is clearly indicated, while the percentage of farm-owned cars traveling less than 100 miles is considerably greater than that of either city-owned or village-owned cars. The inset bar chart (fig. 22) compares the mileage distribution between the three situs classes by 100-mile groups. More than half of all farm-owned cars travel less than 60 miles, and two-thirds travel less than 100 miles per day; the percentage decreases rapidly as the distance increases above 100 miles. One-third of all village cars travel less than 60 miles per day and one-half travel less than 100 miles. Only one-fifth of all city cars travel less than 60 miles per day and only one-third travel less than 100 miles, while nearly one-third travel from 100 to 200 miles per day. The average and median trip of cars classed according to ownership are compared in Table 22 and the median trips are compared in Figure 23. The average is influenced by the small number of cars with an unusually high daily mileage, and for this reason the median is a more representative measure of the normal trip.

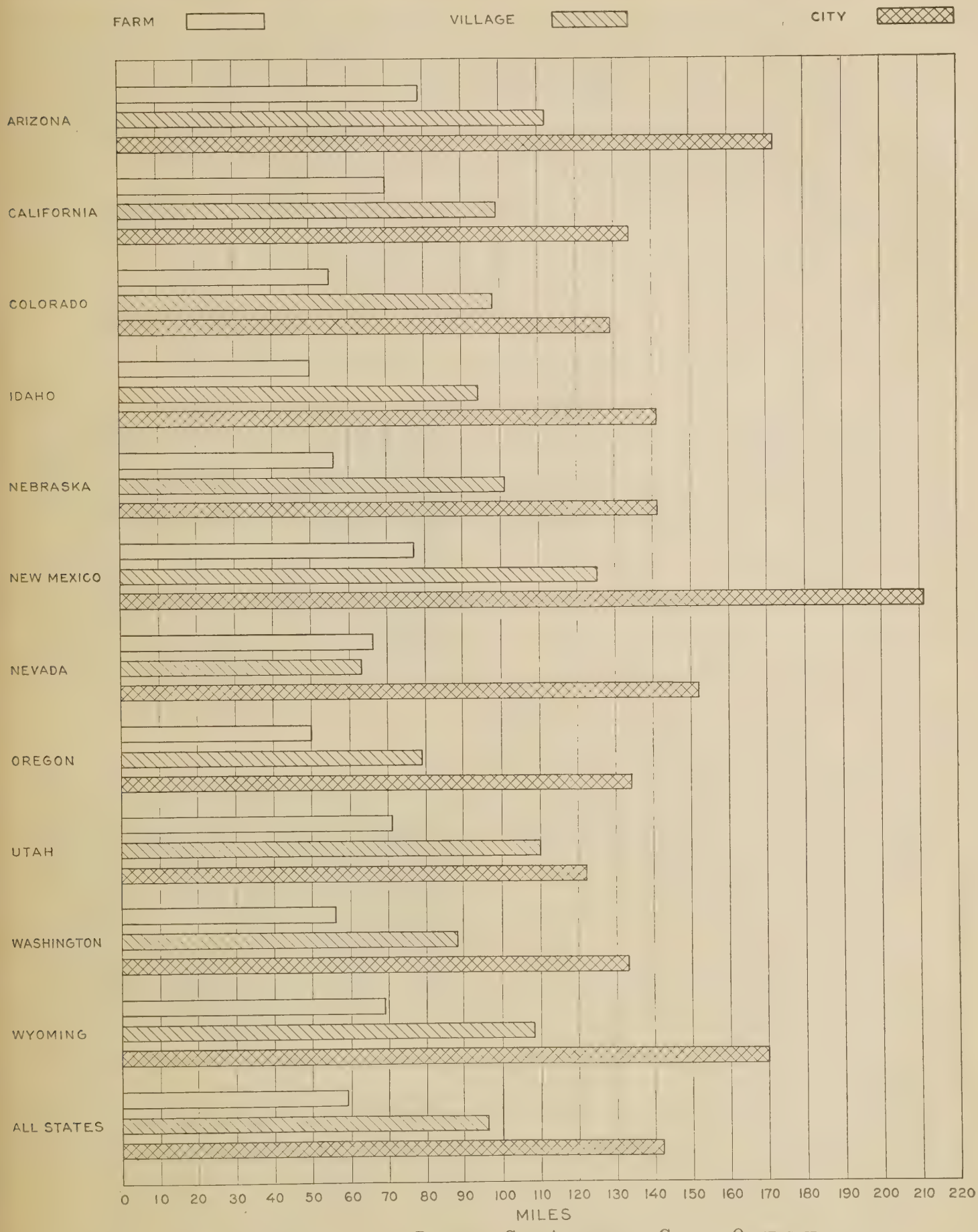


FIGURE 23.—MEDIAN TRAVEL OF PASSENGER CARS ACCORDING TO CLASS OF OWNERSHIP

TABLE 22.—*Average daily travel and median daily travel (miles) of passenger cars according to class of ownership*

State	Farm		Village		City		Total	
	Average	Median [1]	Average	Median [1]	Average	Median [1]	Average	Median [1]
Arizona	125	79	143	112	193	172	173	145
California	108	70	130	99	161	134	150	121
Colorado	103	55	134	98	158	129	142	111
Idaho	87	50	128	94	164	141	135	103
Nebraska	97	56	133	101	170	141	139	109
New Mexico	127	77	159	125	214	211	184	167
Nevada	101	66	99	63	184	152	137	97
Oregon	84	50	115	79	161	134	137	107
Utah	110	71	138	110	156	122	146	115
Washington	85	56	111	88	147	133	128	110
Wyoming	111	69	138	108	187	170	154	122
All survey States	99	59	129	96	169	142	148	118

[1] A distance so chosen that one-half of the vehicles travel more than this distance in a day and one-half travel less.

The median, as well as the average mileage by situs classes, varies considerably, but in all the States, except Nevada, the relationship between situs classes is similar, city cars having the longest daily travel, village cars the next longest travel, and farm cars the shortest travel. For all the survey States, city-owned cars travel a median distance of 142 miles, well above the median line of 118 miles for all cars; village cars travel a median distance of 96 miles; while farm cars travel a median distance of only 59 miles. In Nevada farm-owned and village-owned cars travel approximately the same median distance. In Arizona, New Mexico, Nevada, and Wyoming the influence of foreign traffic is reflected in the exceptionally long median trips of city-owned cars.

STATE OF REGISTRATION OF FOREIGN PASSENGER CARS

FIGURES 24 and 25 indicate the State of registration of foreign passenger cars observed upon the highways in each State of the survey. The shaded area on each map indicates the State of observation and the area of the circles shown represent the proportion of observed foreign passenger cars registered in the other States and geographical divisions indicated. Table 23 shows the percentages used in preparing the diagram.

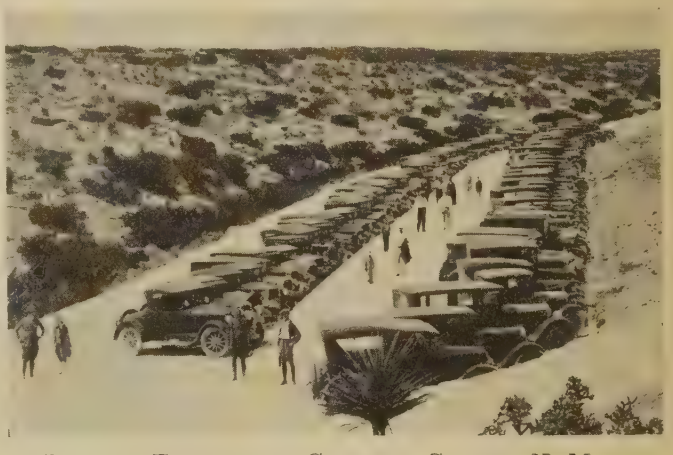
TABLE 23.—*Percentage of foreign passenger vehicle traffic in the survey States classified according to State of registration*

[Total foreign passenger traffic represents 100 per cent]

Passenger cars registered in—	Foreign passenger cars observed in—										
	Arizona	California	Colorado	Idaho	Nebraska	Nevada	New Mexico	Oregon	Utah	Washington	Wyoming
Arizona	----	4.3	1.2	0.6	0.4	2.0	4.5	0.6	2.3	0.3	0.2
California	43.6	----	12.5	11.8	8.1	57.8	19.1	40.6	34.6	25.4	8.2
Colorado	6.1	4.7	----	3.4	11.4	3.6	13.4	1.0	8.4	.9	20.6
Idaho	.4	2.4	.8	----	.8	2.9	.2	7.3	14.3	11.6	1.4
Nebraska	1.3	1.3	9.5	1.6	----	.8	1.4	.6	1.5	.4	12.7
Nevada	.4	3.2	.3	1.0	.2	----	.1	.4	3.2	.3	.3
New Mexico	3.3	.8	2.8	.2	.2	.4	----	.1	.3	.3	.4
Oregon	.7	16.4	.7	11.2	.7	1.6	.4	----	1.9	36.0	1.2
Utah	1.0	2.1	1.7	17.6	.4	10.0	.2	.7	----	.8	2.5
Washington	1.2	18.7	.8	26.5	1.6	1.2	.5	35.9	3.3	----	2.7
Wyoming	.5	.8	5.8	2.5	4.2	1.1	.6	.3	4.6	.3	----
Central Plains States	21.0	16.1	43.0	12.5	51.5	8.0	44.2	5.1	11.1	6.8	29.2
Total west of Mississippi River	79.5	70.8	79.1	88.9	79.5	89.4	84.6	92.6	85.5	83.1	79.4
Northeastern States	16.4	20.9	17.3	7.9	18.2	8.6	12.3	4.1	11.3	5.7	17.7
Southeastern States	2.3	2.3	2.0	.8	1.0	1.0	1.8	.6	1.3	.7	1.3
New England States	1.2	2.0	1.1	.6	.9	.9	.9	.4	1.2	.5	1.0
Total east of Mississippi River	19.9	25.2	20.4	9.3	20.1	10.5	15.0	5.1	13.8	6.9	20.0
Other countries:											
Canada	.3	2.3	.4	1.6	.3	.1	.2	2.1	.4	9.8	.4
Mexico	.2	.1	(1)	(1)	(1)	(1)	.1	(1)	(1)	(1)	(1)
Miscellaneous	.1	1.6	.1	.2	.1	(1)	.1	.2	.3	.2	.2
Total	.6	4.0	.5	1.8	.4	.1	.4	2.3	.7	10.0	.6
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

[1] Less than 0.1 per cent.

CONCRETE ROAD CONSTRUCTION IN WASHINGTON. ONE 20-FOOT LANE IN USE WHILE A SECOND LANE IS UNDER CONSTRUCTION



PARKING TERRACES AT CARLSBAD CAVERN, N. MEX.

In comparing the sources of foreign passenger cars with those of foreign trucks (figs. 15 and 16) the greater mobility and range of passenger cars is evident. The interstate movement of passenger cars is not so markedly confined to adjacent States and there is a much

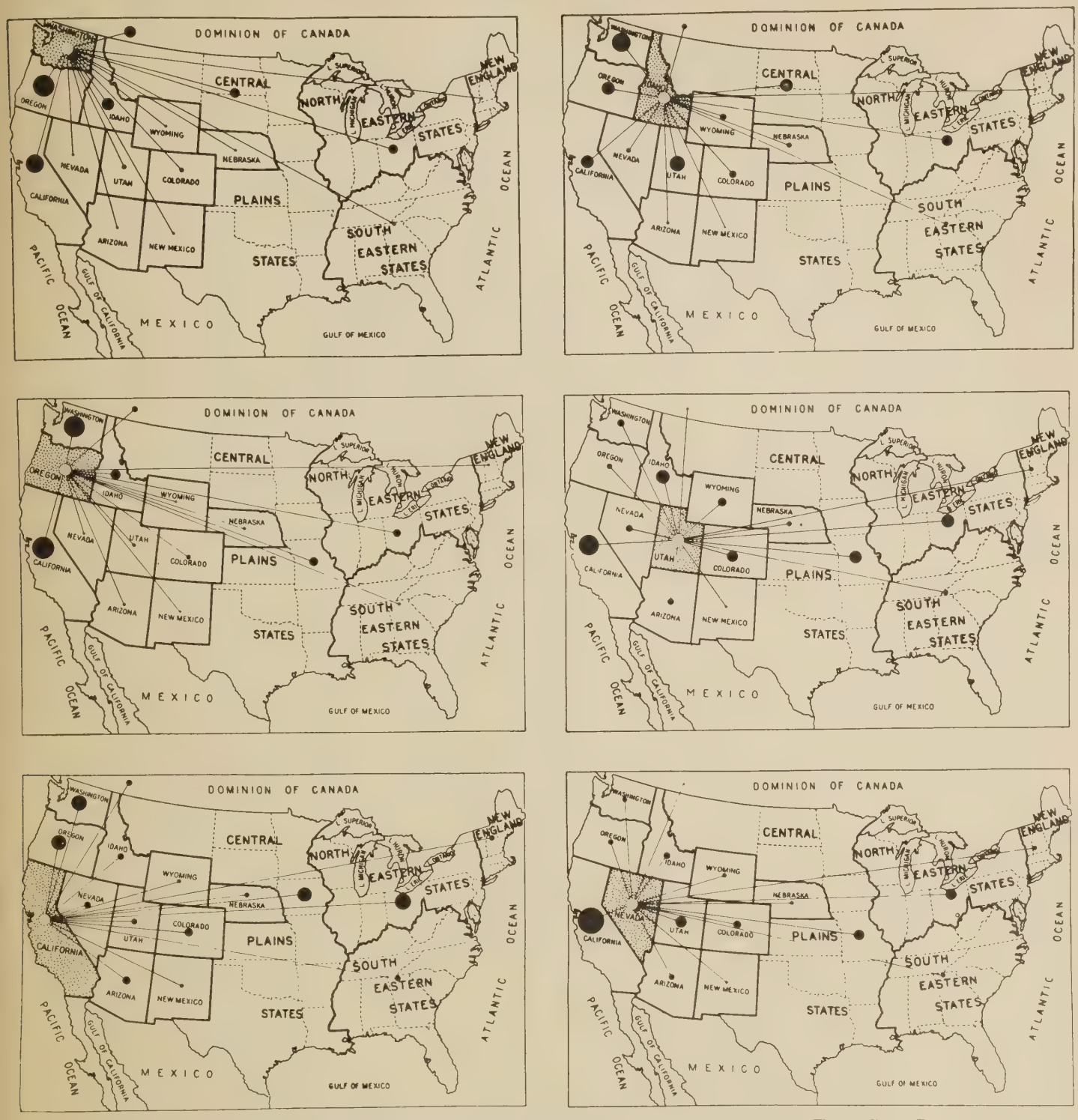


FIGURE 24.—SOURCES OF FOREIGN PASSENGER-CAR TRAFFIC. THE AREA OF THE CIRCLE IN EACH CASE REPRESENTS THE PROPORTIONATE AMOUNT OF FOREIGN TRAFFIC ORIGINATING IN THE AREA INDICATED

higher proportion of transcontinental and semitranscontinental trips.

In addition to the location of cities and convenient interstate routes which largely determined the extent and volume of interstate truck traffic, passenger-car traffic is attracted by recreational facilities, and mountain barriers do not play as important a part in restricting their movements as they do for trucks.

The relative proportion of foreign passenger-car traffic which a given State may expect from other States and areas is roughly dependent on the length of travel, the number of cars registered in those States and areas, and the recreational and scenic attractions of the State in question or its position in the line of travel to such attractions in other States. This is evident from a casual inspection of the origin maps.

It is clear that the greatest proportion of foreign passenger-car traffic originates in the Central Plains States and the Northeastern States, considering now only the divisions not included in the survey. The Central Plains States, bounding the States of the survey on the east, and containing 22 per cent of all the passenger cars registered in the United States, contribute an appreciable portion of the foreign passenger-car traffic to every State of the survey, and particularly to those States lying on the eastern slope of the Rocky

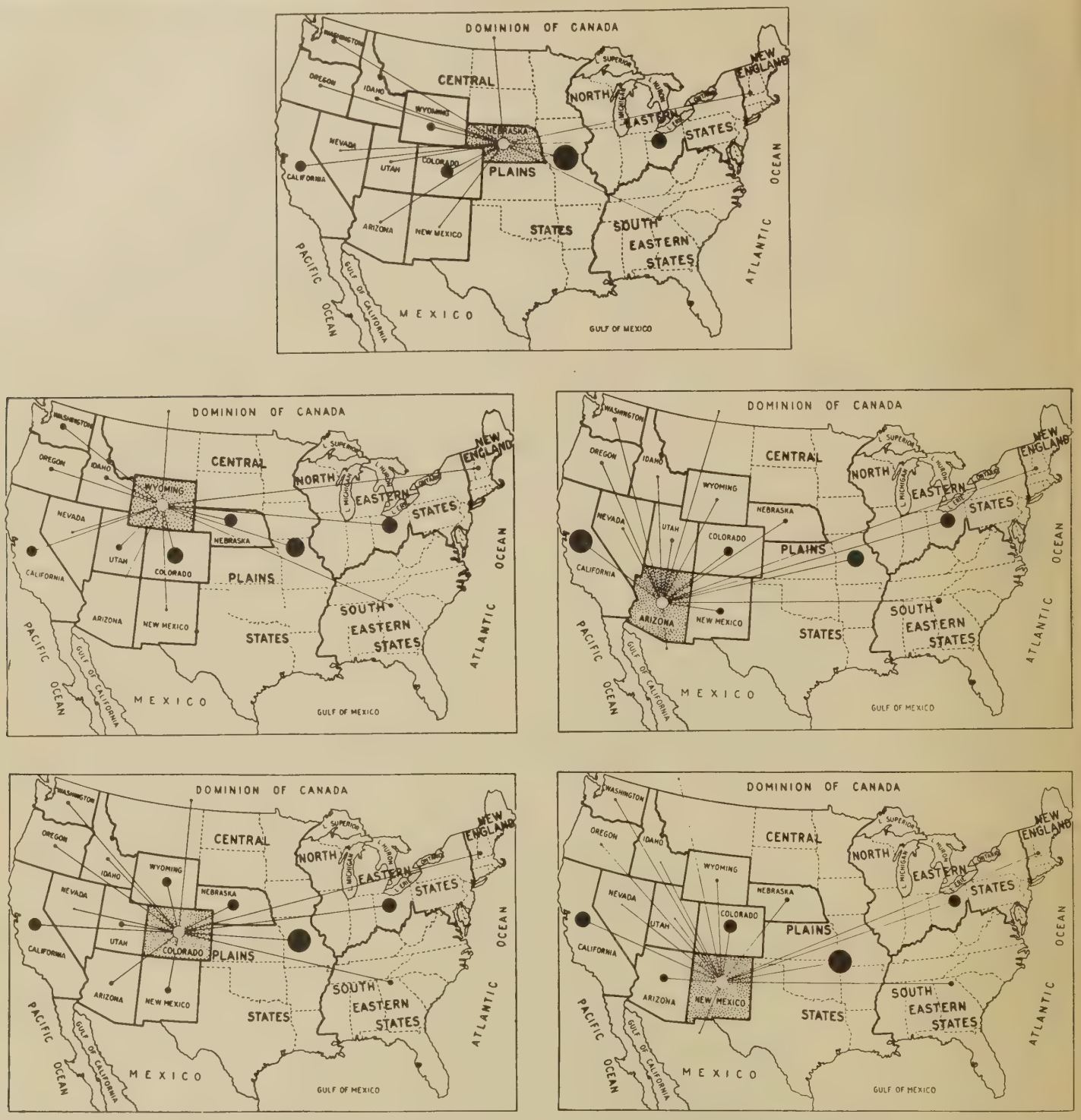


FIGURE 25.—SOURCES OF FOREIGN PASSENGER-CAR TRAFFIC. THE AREA OF THE CIRCLE IN EACH CASE REPRESENTS THE PROPORTIONATE AMOUNT OF FOREIGN TRAFFIC ORIGINATING IN THE AREA INDICATED

Mountains—Wyoming, Colorado, Nebraska, and New Mexico.

The Northeastern States contribute a considerable portion of the foreign passenger-car traffic in each of the States surveyed, regardless of its relative position or the travel required to reach it. As 45 per cent of the passenger cars in the United States are registered in this area, its importance as a traffic producing area is clear.

The New England States, in which are registered 6.3 per cent of all passenger cars, and the Southeastern States, with a registration of only 12 per cent, do not produce a large part of the foreign passenger-car traffic in any of the States surveyed.

California, in which are registered more than 50 per cent of all cars registered in the States covered by the survey, is the only generally important originating State. Cars from California form a noticeable proportion of the foreign cars in all the other States. With the exception of cars from California, the interstate movement of cars is largely confined to adjacent States. Those States with a relatively small number of registrations contribute a correspondingly small proportion of the foreign passenger cars, even in bordering States.

Nevada, for example, with but 0.7 per cent of the cars registered in the States of the survey, contributes negligibly to the foreign traffic in either California or Utah. The same situation exists in the interchange of passenger cars between Utah and Arizona, Arizona and New Mexico, and Idaho and Wyoming—all States of relatively small registration.

Canada and Mexico do not furnish much of the passenger-car traffic. Traffic from Canada is of significance only in Washington, constituting about 10 per cent of the foreign passenger cars in that State, while an appreciable amount of foreign traffic originates in Mexico only in the case of Arizona, California, and New Mexico.

The importance of the principal through routes is indicated by comparisons of the origin maps. In the Pacific Coast States the effect of the principal north-and-south highway, U. S. 99, on interstate passenger-car traffic is clearly disclosed.

While there is a considerable interchange of traffic between Idaho and Washington, and Idaho and Oregon, more than 70 per cent of the foreign passenger cars in Washington originate in Canada, Oregon, and California; 76 per cent of those in Oregon come from Washington and California; and 35 per cent in California, from Oregon and Washington.

Other important north-and-south routes are U. S. 91 between Idaho and Utah; and U. S. 85 between New Mexico, Colorado, and Wyoming. The interstate movement of cars between Utah and Idaho is largely an intercity movement from Salt Lake City, Brigham, Ogden, and Logan in northern Utah, and Boise, American Falls, and Pocatello in southern Idaho. Idaho cars comprise 14 per cent of the foreign cars in Utah, and Utah contributes 18 per cent of the foreign cars in Idaho.

On U. S. 85, the interstate movement is largely an interchange between the southern cities of Trinidad and Walsenburg in Colorado, with Raton in New Mexico, and between Denver, Greeley, and Fort Collins in Colorado, with Cheyenne and Laramie in Wyoming.

The pricipal east-and-west interstate routes are U. S. 30 through Nebraska and Wyoming, U. S. 30 and 40 in Utah, U. S. 40 across Nevada, and U. S. 66 and 80 through New Mexico and Arizona. In these States the proportion of cars from the Central Plains States, the Northeastern States, and California is large.

The east-and-west movement of cars between adjacent States on U. S. 30 and 40 is relatively small, but the proportion cars from the Central Plains States and the Northeastern States and California is large. Nebraska, for example, receives 52 per cent of its foreign cars from the Central Plains States, 18 per cent from the Northeastern States, 8 per cent from California, and only 4 per cent from Wyoming. Nevada receives 58 per cent of its foreign passenger cars from California, 10 per cent from Utah, 8 per cent from the Central Plains States, and 9 per cent from the Northeastern States.

The same situation exists in Arizona and New Mexico. While only 3 per cent of Arizona's foreign passenger cars originate in New Mexico the proportion of cars from California, the Central Plains States, and the Northeastern States is large.

The lack of suitable highway connections between adjoining States is also reflected in the origin maps. There is no direct highway connection between Nevada and Oregon, for instance, and Nevada draws less than 2 per cent of its foreign passenger-car traffic from Oregon, and contributes less than 1 per cent to Oregon. Similar situations exist with regard to Nevada and Idaho, Arizona and Nevada, and Arizona and Utah.

NUMBER OF OCCUPANTS CARRIED BY CARS AND BUSSES

THE term "occupants," as used here, includes passengers and driver. There is little variation among States in the distribution of passenger cars by the number of occupants carried. (Table 24 and Fig. 26.) In practically every State cars carrying one or two occupants constitute nearly two-thirds of all passenger vehicles, and cars carrying three occupants or less are from 70 to 80 per cent of the total.

TABLE 24.—*Percentage distribution of passenger vehicles by number of occupants carried*

[Each State total constitutes 100 per cent]

State	Percentage of cars containing indicated number of occupants							
	1	2	3	4	5	6	7	8 and over
Arizona	26.0	35.9	16.9	11.4	5.7	2.2	0.9	1.0
California	38.0	30.2	14.0	10.1	5.3	1.5	.5	.4
Colorado	32.7	29.3	14.9	11.9	7.1	2.4	.8	.9
Idaho	34.9	29.4	14.1	10.3	6.8	2.5	.9	1.1
Nebraska	35.1	27.2	14.5	11.3	7.8	2.7	.8	.6
New Mexico	25.6	34.3	16.8	12.3	6.6	2.5	1.0	.9
Nevada	23.9	32.3	16.6	13.4	9.0	2.9	1.0	.9
Oregon	31.1	35.1	15.6	10.2	5.2	1.8	.6	.4
Utah	31.5	28.0	14.9	12.6	8.0	3.2	1.1	.7
Washington	36.6	28.6	13.9	10.4	7.2	2.0	.6	.7
Wyoming	30.0	30.4	15.7	12.8	7.0	2.4	.7	1.0
All survey States	32.7	31.7	15.1	10.9	6.2	2.1	.7	.6

The average number of persons per car of the cars carrying less than seven passengers is 2.32. (Table 25.) All cars carrying seven or more occupants were classified as busses in this tabulation, and the average number of occupants carried by busses is 10.27.

TABLE 25.—*Average number of occupants carried by passenger vehicles divided into classes of less than seven occupants and of seven occupants and over*

State	Average number of occupants for passenger vehicles with less than 7 occupants	Average number of occupants for passenger vehicles with 7 or more occupants	Average number of occupants for all passenger vehicles	State	Average number of occupants for passenger vehicles with less than 7 occupants	Average number of occupants for passenger vehicles with 7 or more occupants	Average number of occupants for all passenger vehicles
Arizona	2.41	10.19	2.55	Oregon	2.28	8.74	2.34
California	2.18	11.68	2.27	Utah	2.46	8.02	2.56
Colorado	2.37	11.69	2.54	Washington	2.28	12.18	2.41
Idaho	2.31	11.26	2.48	Wyoming	2.42	10.50	2.57
Nebraska	2.37	9.39	2.46				
New Mexico	2.47	9.21	2.59	All survey States	2.32	10.27	[1] 2.42
Nevada	2.59	9.87	2.73				

[1] This average is based on a total of 661,322 passenger vehicles carrying 1,602,850 persons.

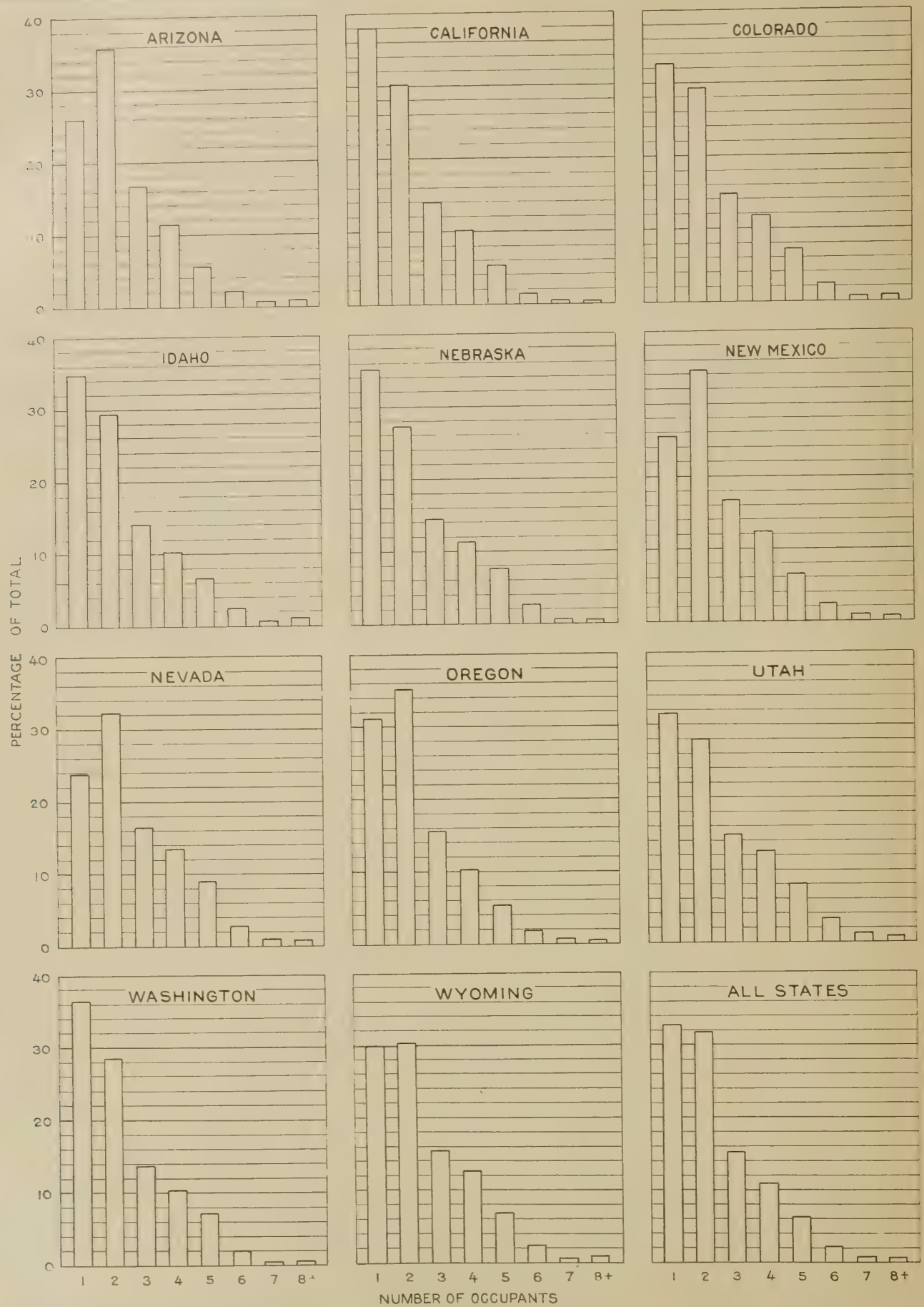


FIGURE 26.—PERCENTAGE DISTRIBUTION OF PASSENGER VEHICLES ACCORDING TO NUMBER OF OCCUPANTS CARRIED

TRAFFIC NEAR TYPICAL LARGE CITIES IN THE WESTERN STATES

THE average daily volume of traffic, and the volume of truck traffic on the principal routes near Los Angeles, San Francisco, Portland, Salt Lake City, and Denver are compared in Table 26. The stations used to determine the volume were selected to give, as nearly as possible, the normal average traffic on each route, but of necessity the station locations near one city do not have the same relative locations as those near any other city. The station locations, therefore, account for some of the variations in traffic between cities, but in general the traffic volumes indicated are typical.

The area bounded by the stations near Los Angeles includes Pasadena, Hollywood, and San Fernando as well as Los Angeles. The volume of traffic is shown for five important highways serving this area—U. S. 101 leading east and south from Los Angeles to Whittier, Fullerton, and San Diego, U. S. 101 west from Hollywood toward Ventura and Santa Barbara, U. S. 99 north from San Fernando to Bakersfield, U. S. 66 east from Pasadena to San Bernardino, and California 23 northeast from San Fernando to Lancaster and Mojave. The most heavily traveled of these routes is U. S. 101 to the east, with a total volume of traffic between Los Angeles and Whittier of 17,805 vehicles per day, of which 1,008 are light trucks of less than 3-ton capacity, and 360 are heavy trucks of 3-ton capacity or greater. U. S. 101 to the west and U. S. 66 to the east also carry large volumes of traffic, the daily average volume on U. S. 101 near the city limits of Hollywood being 6,009 vehicles and that on U. S. 66 east of Pasadena being 8,502 vehicles. The total volume on the 5 routes is 38,016 vehicles per day, an average of 7,603 per route.

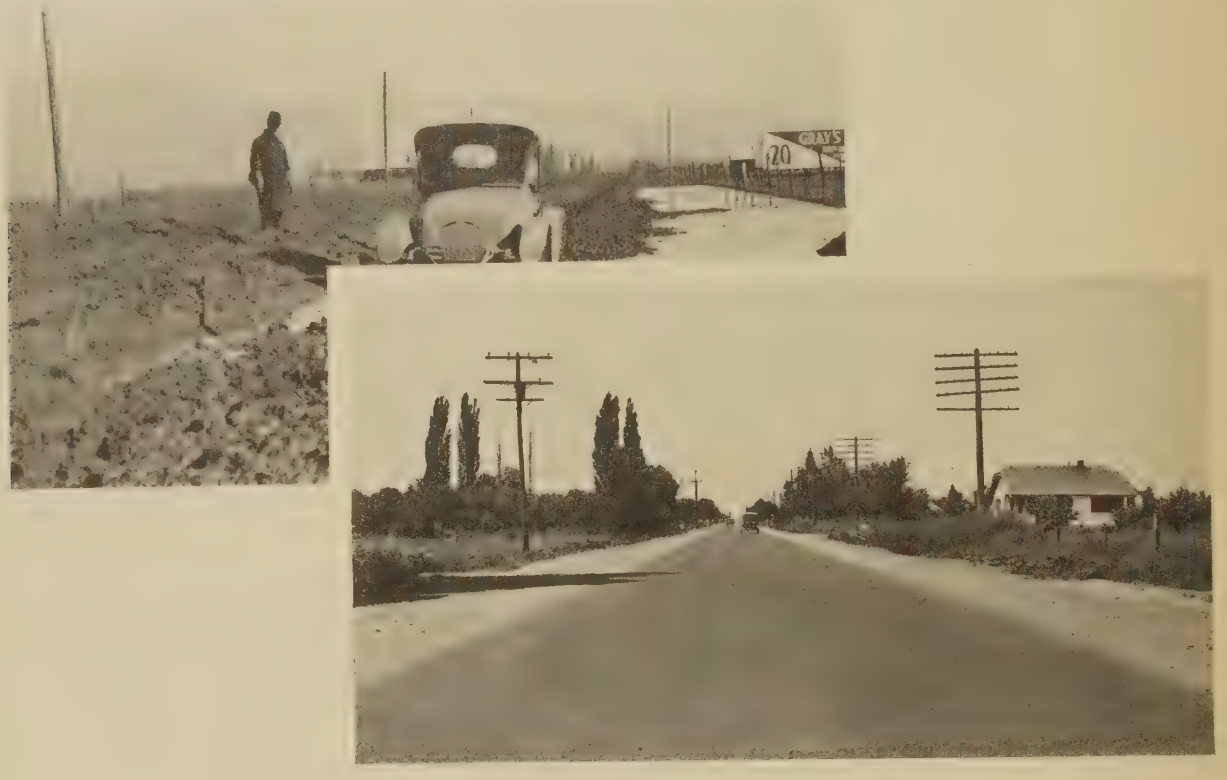
SUNDAY AFTERNOON TRAFFIC ON BAYSHORE HIGHWAY NEAR SOUTH SAN FRANCISCO

The San Francisco area includes San Francisco, Sausalito, and the east bay cities of Richmond, Oakland, Alameda, Berkeley, and Hayward. The principal

TABLE 26.—*Average daily volume of traffic near large cities*

Area	Route	Direction	Station No.	Location of station	Traffic volume per day		
					All vehicles	Trucks less than 3 tons	Trucks, 3 tons and over
Los Angeles	U. S. 101	E	13	East of intersection of Whittier Boulevard and Indiana St	17,805	1,008	360
	do	W	24	West of Hollywood on Ventura Boulevard at Sepluveda St	6,009	350	140
	U. S. 99	N	20	Near Saugus at junction U. S. 99 and Calif. 23	3,231	280	150
	U. S. 66	E	18	Pasadena—east city limits	8,502	370	100
	Calif. 23	E	20	Near Saugus at junction of U. S. 99 and Calif. 23	2,469	207	125
Total					38,016	2,215	875
Average					7,603	443	175
San Francisco	U. S. 101	N	12	Junction U. S. 101 and Calif. 52 at Alto north of Sausalito	4,618	304	68
	U. S. 101E	S	9	1.7 miles south of Hayward at junction U. S. 101E and road to San Mateo Bridge.	3,539	332	97
	U. S. 101W	S	1	Junction U. S. 101W and county road to South San Francisco at Lawndale	11,643	558	102
	U. S. 40	N	10	North of Richmond at junction U. S. 40 and county road	7,815	438	96
	U. S. 48	E	8	Northeast of Hayward at junction U. S. 48 and Castro Valley road	6,009	415	257
Total					33,624	2,047	620
Average					6,725	409	124
Portland	U. S. 99	N	7	North of Portland at south end of interstate bridge over Columbia River	9,991	628	98
	do	S	9	South of Portland at Oswego	2,789	188	53
	U. S. 30	E	4	1 mile west of Crown Point on U. S. 30	1,829	88	40
	do	W	101	2 miles south of Scappoose on U. S. 30	1,884	72	27
	Oreg. 26	E	8	East city limits of Sandy on Oreg. 26	1,128	99	9
	Oreg. 29	W	3	East of Beaverton at junction Oreg. 29 and Oreg. 40	3,474	234	62
	River rd	S	10	Park Place bridge north of Oregon City	2,209	172	28
	Eighty-second St	S	10		2,709	217	35
Total					26,013	1,698	352
Average					3,252	212	44
Salt Lake City	U. S. 91	N	11	North city limits of Salt Lake City on U. S. 91	5,484	704	78
	do	S	10	South city limits of Salt Lake City at Thirty-fifth and South State Streets on U. S. 91.	7,443	884	90
	U. S. 40	E	37	East city limits of Salt Lake City on U. S. 40	2,176	132	14
	do	W	36	West city limits of Salt Lake City on U. S. 40	2,958	353	40
Total					18,061	2,073	222
Average					4,515	518	56
Denver	U. S. 85	NE	14	Northeast city limits of Denver on U. S. 85	5,454	774	103
	do	S	17	1¼ miles south of city limits of Denver on U. S. 85	4,621	430	45
	U. S. 285	N	13	North city limits of Denver on U. S. 285	5,255	610	76
	U. S. 40	E	18	2 miles east of city limits of Denver on U. S. 40	973	130	20
	do	W	15	West city limits of Denver on U. S. 40	6,154	484	36
	Colo. 8	W	16	1½ miles southwest of city limits of Denver on Colo. 8	2,563	178	20
Total					25,020	2,606	300
Average					4,170	434	50

routes serving this area are U. S. 101 north from Sausalito toward Santa Rosa, U. S. 101E south from Hayward toward San Jose, U. S. 101W south from San Francisco to San Jose, U. S. 40 north from Richmond toward Sacramento, and U. S. 48 east from Hayward to Stockton. The greatest volume of traffic occurs on U. S. 101W, the main highway leading south from San Francisco, an average of 11,643 vehicles per day flowing on the section just south of the city near Lawndale. The volume of truck traffic at this point is also heavy, the daily average being 558 light trucks and 102 heavy trucks. Next in importance is U. S. 40, the daily average north of Richmond being 7,815 vehicles. While the total traffic on U. S. 48 to Stockton is slightly



Scene on the Route Between Salt Lake City and Ogden, Utah, in 1919 and Bituminous Pavement on the Present Route Now Known as U. S. 91

less than that on U. S. 40, it is significant that the volume of trucking on this route is greater, averaging 415 light trucks per day and 257 heavy trucks. This volume of trucking is practically equalled on U. S. 101W but the proportion of heavy trucks is greater on U. S. 48, clearly establishing its importance as a commercial route. The total volume of traffic on the routes entering the San Francisco area averages 33,624 vehicles per day, or 6,725 per route, slightly less than the volume of traffic in the Los Angeles area.

Although the traffic on eight important routes entering Portland was considered, the total volume of traffic is less than that near either of the California cities, and the proportion of heavy trucks traffic is much smaller. The largest number of vehicles was recorded on U. S. 99 passing over the interstate bridge between Vancouver, Washington, and Portland, a total of 9,991 per day. Three important routes lead south from Portland to Oregon City, U. S. 99, River Road and Eighty-second Street, and carry a combined traffic of more than 7,700 vehicles per day including approximately 600 light trucks and 120 heavy trucks. The most important single east-and-west route is Oreg. 29, an average daily volume of 3,474 vehicles being recorded west of Portland. U. S. 30 following the Columbia River carries approximately the same volume of traffic west from Portland toward Astoria and east toward The Dalles, the average daily volume at Scappoose and at Crown Point being about 2,000 vehicles.

Salt Lake City is served by four important highways—U. S. 91 north, U. S. 91 south, U. S. 40 east and U. S. 40 west. The greatest volume of traffic is concentrated on the north-and-south routes which provide transportation to Ogden, Brigham, and Logan in north Utah and Provo to the south. The total volume of traffic on U. S. 91 at the north city limits of Salt Lake City is 5,484 vehicles per day including 704 light trucks and 78 heavy trucks. On U. S. 91 just south of Salt Lake City the volume is considerably greater, 7,443 vehicles per day, with 884 light trucks and 90 heavy trucks. On U. S. 40 east and west there is also a considerable volume of traffic but this traffic falls rapidly as the distance from the city is increased.

Of six main highways entering Denver, the most important to traffic are U. S. 85 and U. S. 285. U. S. 85 to Greeley carries an average daily volume of 5,454 vehicles and is particularly important as a trucking route. Although the total volume on U. S. 285 north to Fort Collins is practically the same as that on U. S. 85, U. S. 85 carries more than 25 per cent more truck traffic. South of Denver on U. S. 85 the volume of traffic averaged 4,621 vehicles per day including 430 light trucks and 45 heavy trucks. Although the volume of traffic west of Denver on U. S. 40 is greater than that on any of the other routes, it is primarily local.

COMPOSITION OF TRAFFIC NEAR REPRESENTATIVE CITIES

The variation in the composition of traffic near the larger cities of the Western States bears a close relationship to the variations which occur between the

traffic of the States in which those cities are located. Just as there is a larger proportion of heavy-capacity trucks operating in California than in any other State, so there is a higher proportion of heavy truck traffic in the Los Angeles and San Francisco areas than near any of the other large cities of the Western States.

The proportion of heavy trucks operating near Los Angeles is greater than that near any other city, 30.5 per cent being of 3-ton capacity or more and 5.2 per cent of more than 7½-ton capacity. Only a slightly smaller proportion of heavy trucking is found near San Francisco, 23.4 per cent being of 3-ton capacity or more and 4.8 per cent of more than 7½-ton capacity, and a comparison of Table 27 and Table 5 shows that the capacity distribution of trucks near San Francisco is very similar to that of all trucks operating in California.

TABLE 27.—*Characteristics of traffic near large cities*

City	Capacity distribution of trucks [1]			Situs of ownership		
				Trucks [1]		
	Less than 3 tons	3 tons and over	Over 7½ tons	Farm	Village	City
	Per cent	*Per cent*	*Per cent*	*Per cent*	*Per cent*	*Per cent*
Los Angeles	69.5	30.5	5.2	8.7	14.9	76.4
San Francisco	76.6	23.4	4.8	9.5	15.4	75.1
Portland	81.4	18.6	1.3	15.9	25.1	59.0
Salt Lake City	90.2	9.8	.3	20.5	21.1	58.4
Denver	89.5	10.5	.6	28.7	22.8	48.5

City	Situs of ownership			Daily mileage			
	Passenger cars [2]			Trucks		Passenger cars	
	Farm	Village	City	Average	Median	Average	Median
	Per cent	*Per cent*	*Per cent*	*Miles*	*Miles*	*Miles*	*Miles*
Los Angeles	8.3	9.8	81.9	102	87	136	114
San Francisco	7.1	13.1	79.8	94	76	111	87
Portland	13.5	19.3	67.2	88	72	102	74
Salt Lake City	10.9	16.5	72.6	92	75	114	90
Denver	16.1	17.0	66.9	94	78	115	82

[1] All trucks observed in area constitute 100 per cent.
[2] All passenger vehicles observed in area constitute 100 per cent.

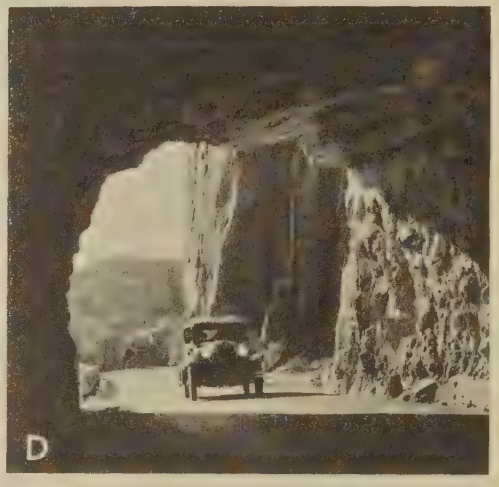
Near Portland, Salt Lake City, and Denver the proportion of heavy trucking is much less than that near the California cities, and remarkably similar to the proportion of heavy trucks for the State in which the city is located. Near Portland only 18.6 per cent of the trucks observed are of 3-ton capacity or more, near Salt Lake City, 9.8 per cent, and near Denver 10.5 per cent.

The influence of traffic of city origin is reflected in a proportion of city-owned vehicles from 5 to 10 per cent higher than the proportion for all vehicles in the State. The effect of numerous suburban cities near Los Angeles and San Francisco is to make the fraction of city-owned trucks and passenger cars considerably larger than that near any of the other cities. Approximately 75 per cent of the trucks and 80 per cent of the passenger cars in the Los Angeles and San Francisco areas are city owned, while only about 60 per cent of the trucks and 70 per cent of the passenger cars near Portland and Salt Lake City are city owned. The percentage of city-owned passenger cars near Denver is similar to that for Salt Lake City and Portland, but the percentage of city-owned trucks is 48.5.

Since a considerable amount of traffic on the highways near cities is local in character, representing travel to and from suburban communities, the daily mileage of vehicles near cities is less than that of all vehicles on the highway system.

There is a great degree of similarity in the average and median daily mileage of trucks near San Francisco, Salt Lake City, and Denver, the average being about 95 miles and the median about 75 miles. The average mileage for trucks near Portland is slightly less, 88 miles, but the median is approximately the same, 72 miles, indicating a higher proportion of trucks traveling in the lower mileage group near Portland. These mileages are all considerably less than the average for all trucks in the States in which the cities are located. (Table 7.) The average and median daily mileage of trucks near Los Angeles is markedly higher than that of trucks near the other cities, being 102 miles and 87 miles, practically the same as that of all trucks in California.

Passenger cars near Los Angeles also travel farther than those near the other cities, although the average and median mileage are less than that of all passenger cars in California. There is little variation in the average and median daily mileage of passenger cars near San Francisco, Portland, Salt Lake City, and Denver, the average mileage ranging from 102 miles in the Portland area to 115 miles near Denver, and the median mileage ranging from 74 near Portland to 90 near Salt Lake City.



A LARGE VOLUME OF TOURIST TRAFFIC IS ATTRACTED BY THE SCENIC BEAUTY OF THE WEST

A—On the Columbia River Highway in Oregon. B—Wind River Canyon in Wyoming. C—Mouth of Wilson Canyon, Nev. D—Through the Mountains of Arizona. E—A Typical Scene in Oregon. F—Along Current Creek, Nev. G—North of Provo, Utah

FORECASTS OF HIGHWAY TRAFFIC IN THE WESTERN STATES

PLANNED highway construction—widening, new construction, and reconstruction of old surfaces—must provide for future use as well as for present traffic.

There is little question about the desirability of the higher types of pavement, but funds necessary for the universal construction of such types are not now available. Roads that are too highly improved are as uneconomic as those that are inadequate for traffic demands. Because of this, estimates of future traffic are essential in the development of a plan of highway improvement.

Traffic forecasts based solely on past traffic trends can not generally be made, as reliable traffic data for a series of years are available only in a few States. Limited past traffic data may be used in making a reasonable forecast of probable future traffic where the factors of population, registration, and gasoline consumption are available. Since these needed factors are obtainable in all the Western States, a means of estimating the probable future traffic in each is present, even though no traffic series can be obtained.

Traffic forecasts in previous reports of the Bureau of Public Roads[1] were based on estimates of future registration and population. Trends of traffic and motor vehicle registration were shown for Massachusetts, Maryland, Maine, Michigan, and Wisconsin. Future registration was estimated by projecting the trend of persons per car. This method is used in determining the probable future registration in the Western States.

Gasoline consumption is more closely related to volume of traffic than is registration, but statistics of gasoline consumption can be obtained only for very recent years, since the institution of a fuel tax. Therefore, a combination of these several factors must be used in making traffic forecasts.

Increased travel per car and the extent of the use made of a State's highways by foreign vehicles are both reflected in increased gasoline consumption within that State, although the motor vehicle registration of the State is not affected by either of these factors. Numerous agencies of the motor industry have published statements regarding the increasing use per car; some indicate an increased mileage per car for 1930 more than 60 per cent greater than in 1920, and these conclusions are supported by figures of increased fuel consumption per car.

The survey in the Western States discloses that the range of foreign traffic is from 4.9 per cent of all traffic in California to 38.5 and 37.6 per cent in Arizona and New Mexico, respectively. The median State is Oregon with 22.1 per cent of its traffic originating outside its boundries. (Table 1.) Only California has less than 10 per cent of foreign traffic, while more than one-third of all traffic in Arizona and New Mexico comes from other States.

[1] Survey of Transportation on the State Highway System of Ohio (1927); Report of Transportation on the State Highway System of Connecticut (1926); The Maine Highway Transportation Survey, Public Roads, vol. 6, no. 3, May, 1925.

RELATIONSHIP OF GASOLINE CONSUMPTION, REGISTRATION, AND TRAFFIC

Since 1925 and 1926 gasoline consumption has increased more rapidly than registration in the Western States, as well as in the United States as a whole. This is clearly illustrated in Figure 27, in which the historical series of gasoline consumption, registration, and traffic have been plotted on logarithmic scale and moved together vertically to facilitate comparison of the rates of increase in two of the Western States.

Traffic data for the period 1923 to 1929 are available in Oregon. Using 1923 as a base year, over this period registration in Oregon has increased 64.2 per cent; traffic, 101.2 per cent; and gasoline consumption by motor vehicles, 104.4 per cent. Using 1929 as a base the increases are: Registration, 39.1 per cent; traffic, 50.3 per cent; gasoline consumption, 51.1 per cent. (Table 28.) Referring again to Figure 27, during the years 1920 to 1924 the trends for motor-vehicle registration and gasoline consumption are found to be quite similar. In 1924 these series begin to separate and the divergence continues to increase with the registration trend falling off while that of gasoline consumption continues to climb with the traffic trend.

TABLE 28.—*Comparison of motor-vehicle registration, gasoline consumption, and extent of highway traffic in Oregon from 1923 to 1929*

Year	Registration [1]	Index number	Gasoline consumption (gallons)	Index number	Traffic	Index number
1923	166,412	100.0	74,395,262	100.0	86,931	100.0
1924	192,629	115.8	86,212,032	115.9	110,891	127.6
1925	216,553	130.1	99,718,545	134.0	120,893	139.1
1926	234,134	140.7	111,739,583	150.2	137,431	158.1
1927	245,705	147.7	122,979,624	165.3	146,257	168.2
1928	254,415	152.9	134,228,921	180.4	163,934	188.6
1929	273,270	164.2	152,079,099	204.4	174,871	201.2

[1] As reported to U. S. Bureau of Public Roads by State officials. In some instances a revision has been made of the figure originally reported in annual tabulations.

California has a 5-year series of traffic, gasoline consumption, and registration figures. Figure 27 presents trends of these factors. Here again the trend of gasoline consumption and traffic are very similar, while the registration curve, as in Oregon, is lower since 1926. During these five years, 1926–1930, traffic increased 39.3 per cent; registration, 27.5 per cent; and gasoline consumption, 40.9 per cent. Absolute and percentage figures are shown in Table 29. Further reference to California (fig. 27) brings out the interesting fact that during 1924, 1925, and 1926 gasoline consumption and registration trends were very much alike, but since 1926 they are separated. Again the gasoline-consumption trend follows more closely that of traffic.

Foreign traffic alone does not account for all of the divergencies of registration from traffic and gasoline-consumption trends, since it amounts to but 4.9 per cent of all traffic in California. The greater use of the automobile throughout the year is a factor reflected in increased gasoline consumption.

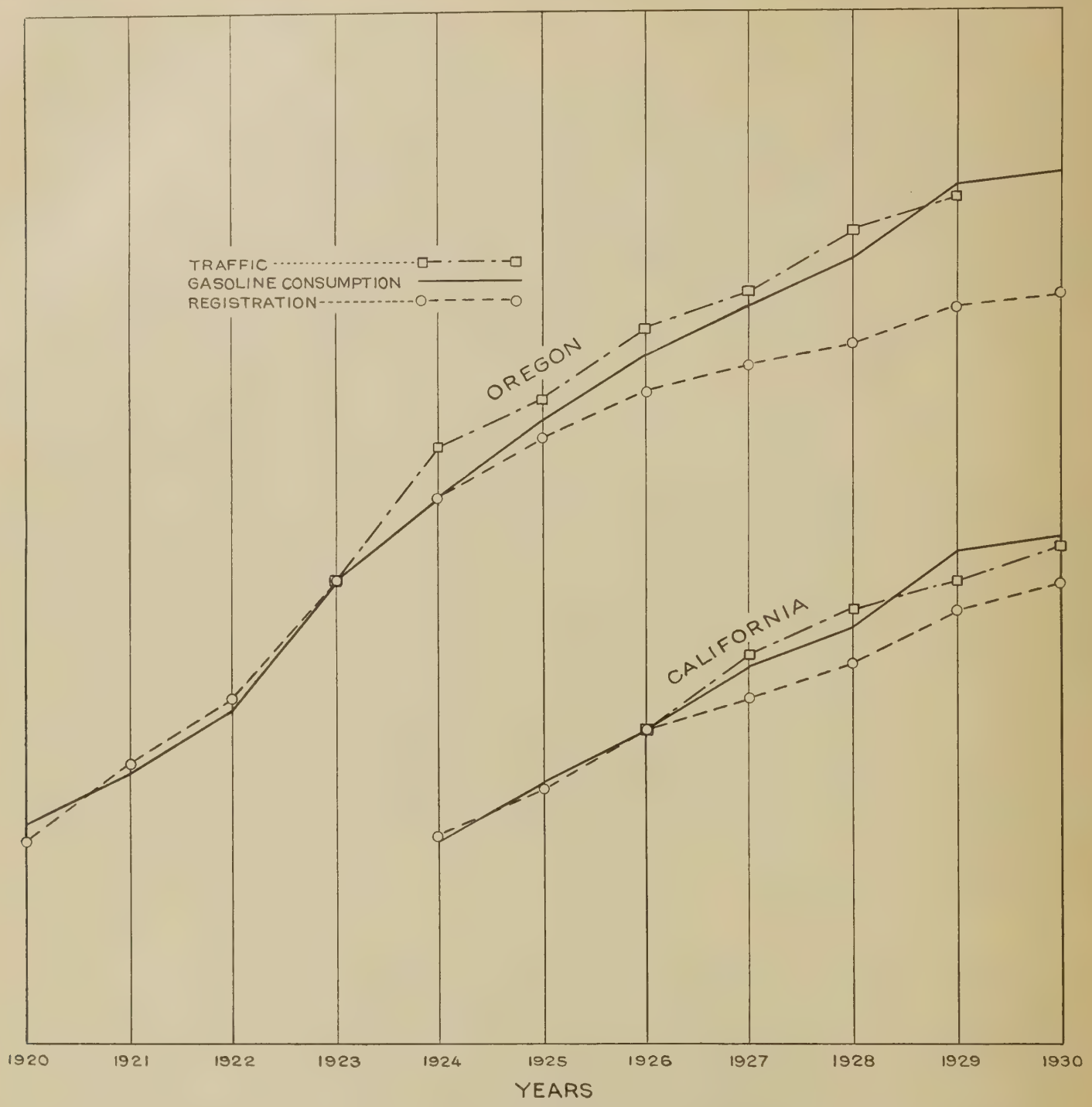


FIGURE 27.—TRENDS OF HIGHWAY TRAFFIC, GASOLINE CONSUMPTION, AND MOTOR-VEHICLE REGISTRATION IN OREGON AND CALIFORNIA. DATA PLOTTED ON LOGARITHMIC SCALE AND MOVED TOGETHER VERTICALLY FOR COMPARISON

Table 30, based on data from Louisiana, again illustrates that traffic is increasing at a faster rate than registration. It should be borne in mind that gasoline figures reported in Louisiana do not represent gallons of gasoline consumed by motor vehicles alone as in Oregon and California, but total gallons for all purposes. Louisiana traffic increased 25.2 per cent from 1926 to 1930. Registration increased 14.9 per cent and gasoline consumption increased 36.4 per cent. Fragmentary data from Nebraska, where a small number of traffic stations were operated at changing locations from 1926 to 1930, indicate closer agreement in rates of increase of traffic and gasoline consumption than in rates of increase of traffic and motor vehicle registration.

TABLE 29.—*Comparison of motor-vehicle registration, gasoline consumption, and highway traffic in California from 1926 to 1930*

Year	Registration	Index number	Gasoline consumption (gallons)	Index number	Traffic [1]	Index number
1926	1,600,475	100.0	825,106,169	100.0	1,751,799	100.0
1927	1,693,195	105.8	928,724,702	112.6	2,003,203	114.4
1928	1,799,890	112.5	985,558,974	119.5	2,188,741	124.9
1929	1,974,341	123.4	1,139,736,244	138.1	2,293,720	130.9
1930	2,041,356	127.5	1,162,337,545	140.9	2,440,000	139.3

[1] This series is an average of Sunday and Monday traffic in January at 583 stations. In January, 1930, an unusually heavy snow closed many roads during the traffic count. Sunday traffic decreased more than 20 per cent, but Monday traffic with same roads closed, showed an increase over the previous year. A slightly lower rate of increase than that of July, 1930, over July, 1929, traffic was used to interpolate the January, 1930, figure. Had the full rate of increase in July traffic been applied, the index number for traffic in 1930 would have been closer to gasoline consumption index of 140.9; i. e., 140.3 instead of 139.3.

TABLE 30.—*Comparison of motor-vehicle registration, gasoline consumption, and highway traffic in Louisiana from 1926 to 1930*

Year	Registration	Index number	Gasoline consumption (gallons)	Index number	Traffic	Index number
1926	239,500	100.0	135,428,367	100.0	104,710	100.0
1927	255,000	106.5	151,702,807	112.0	116,270	111.0
1928	264,293	110.4	169,046,556	124.8	116,575	111.3
1929	280,868	117.3	176,645,631	130.4	130,270	124.4
1930	275,283	114.9	184,781,753	136.4	131,097	125.2

TABLE 31.—*Comparison of registration of motor vehicles and gasoline consumption (gallons) in Colorado from 1913 to 1930*

Year	Registration [1]	Net gasoline consumption [1]	Gross gasoline consumption [1]	Index numbers		
				Registration	Net gasoline consumption	Gross gasoline consumption
1913	13,000		5,860,855	5.4		5.9
1914	17,756		10,372,238	7.4		10.5
1915	28,894		14,482,629	12.0		14.7
1916	43,296		19,988,001	18.0		20.2
1917	87,460		29,879,153	36.4		30.3
1918	83,244		32,800,910	34.7		33.2
1919	104,865		42,361,550	43.7		42.9
1920	129,255	[2] 45,839,482	51,917,098	53.8	47.1	52.6
1921	145,739	[2] 64,491,230	60,390,692	60.7	66.2	61.2
1922	162,328	69,337,164	65,891,200	67.6	71.2	66.7
1923	188,956	73,753,225	75,258,403	78.7	75.7	76.2
1924	213,247	92,151,131	94,031,766	88.8	94.6	95.2
1925	240,097	97,377,858	98,741,301	100.0	100.0	100.0
1926	248,613	104,587,460	112,380,309	103.6	107.4	113.8
1927	268,492	122,493,107	128,304,024	111.8	125.8	129.9
1928	284,867	130,707,467	142,027,665	118.7	134.2	143.8
1929	303,489	141,466,891	155,507,842	126.4	145.3	157.5
1930	308,509	153,620,645	170,854,939	128.5	157.8	173.0

[1] As reported by State inspector of oils.
[2] Based on taxes collected in 1920 apparently reported in part with collections of 1921.

Statistics of gasoline consumption in Colorado are available for a longer period of years than in any other State—that is, since 1913. The rates of increase in motor-vehicle registration and in gasoline consumption are very similar year by year between 1913 and 1925. After 1925 the increases in registration are at a less rapid rate than the rates of increase in gasoline consumption for corresponding years. Table 31 presents the data for comparison.

Data from these four States, which vary widely in industrial and agricultural development, in population density, in motor-vehicle registration and in the quantities of gasoline consumed, all support the conclusion that, during recent years at least, gasoline consumption increases are more closely correlated with traffic increases than are increases in motor-vehicle registration, although data with respect to registration is valuable in forecasting traffic.

The relationship established between traffic, gasoline consumption, and registration will be used in estimating probable future traffic in the 11 Western States. Registration and gasoline consumption are forecast simply to arrive at the probable traffic increase. Forecasts of traffic based on these general trends should predict future traffic with reasonable accuracy.

Tables 32 and 33 dealing with registrations and gasoline consumption respectively, present historical data available since 1920 for each State in this survey as well as forecasts for 1935 and 1940.

Figure 28 shows graphically the trends of registration and gasoline consumption for each State. These curves are plotted on a logarithmic scale and moved together vertically for comparison of rates of increase over past and projected periods.

TABLE 32.—*Motor-vehicle registration, 1920 to 1930, and estimates for 1935 and 1940* [1]

Year	Arizona	California	Colorado	Idaho	Nebraska	Nevada	New Mexico	Oregon [2]	Utah	Washington	Wyoming
1920	34,601	583,623	129,255	50,861	219,000	10,464	22,100	103,790	42,616	173,920	23,926
1921	35,611	680,614	145,739	51,294	238,704	10,821	22,559	118,615	47,485	185,359	26,866
1922	38,034	861,807	162,328	53,874	256,654	12,116	25,473	134,566	49,164	210,716	30,637
1923	49,175	1,100,283	188,956	62,379	286,053	15,699	32,032	166,412	59,525	258,264	39,831
1924	57,828	1,319,394	213,247	69,227	308,715	18,118	41,680	192,629	68,316	295,443	43,639
1925	68,029	1,440,541	240,097	81,506	338,719	21,169	49,111	216,553	73,427	328,442	47,711
1926	73,682	1,600,475	248,613	94,760	366,773	24,014	54,996	234,134	85,380	363,279	49,883
1927	81,047	1,693,195	268,492	101,336	373,912	25,776	59,291	245,705	93,974	384,583	51,955
1928	94,372	1,799,890	284,867	108,154	391,355	27,376	65,737	254,415	98,541	402,875	56,336
1929	109,013	1,974,341	303,489	118,074	418,226	31,915	78,374	273,270	112,661	442,341	60,680
1930	110,525	2,041,356	308,509	119,077	426,229	29,645	84,150	277,000	113,997	446,062	61,501
1935	141,000	2,520,000	360,500	144,000	485,000	37,100	109,000	325,000	140,000	533,000	72,400
1940	165,000	2,900,000	400,000	160,000	530,000	42,500	126,000	360,000	160,000	600,000	81,000

[1] Based on reports from State authorities.
[2] Figures originally reported in annual tables of Bureau of Public Roads have been revised on basis of additional data received from State.

TABLE 33.—*Gasoline consumption (gallons) by motor vehicles of Western States from 1920 to 1930 and estimated consumption in 1935 and 1940* [1]

Year	Arizona	California	Colorado	Idaho	Nebraska [1]	Nevada	New Mexico [1]	Oregon [2]	Utah [1]	Washington	Wyoming [1]
1920			45,839,482					47,737,782			
1921			64,491,230				10,729,592	52,773,526			
1922	17,460,636		69,337,164				15,815,874	58,626,398		95,360,634	
1923	20,123,824		73,753,225				15,897,209	74,395,262		122,594,498	
1924	24,361,537	670,677,076	92,151,131	27,267,351		7,713,133	18,709,876	86,212,032	28,183,440	136,043,749	20,262,407
1925	28,531,636	747,839,462	97,377,858	30,809,320		8,850,407	20,490,892	99,718,545	32,217,216	151,040,586	20,746,056
1926	32,608,821	825,106,169	104,587,460	37,403,986	151,996,357	10,145,454	25,428,358	111,739,583	35,943,117	174,104,636	22,743,572
1927	40,216,927	928,748,702	122,493,107	40,876,738	183,245,970	11,790,615	30,117,191	122,979,624	41,773,659	191,071,925	25,884,393
1928	50,455,046	985,558,973	130,707,467	47,096,637	197,058,187	13,279,660	36,738,005	134,228,921	47,577,166	210,325,734	31,810,563
1929	63,995,783	1,139,736,244	141,466,891	48,658,984	208,869,358	16,307,535	45,479,332	152,079,099	56,546,967	233,333,570	34,242,816
1930	66,750,478	1,162,337,545	153,620,645	54,422,752	226,510,543	16,875,292	54,385,614	155,090,885	60,137,811	241,774,964	36,175,118
1935	97,000,000	1,523,000,000	199,000,000	71,221,000	289,000,000	23,500,000	79,000,000	203,000,000	80,500,000	313,000,000	48,000,000
1940	120,000,000	1,800,000,000	232,000,000	84,000,000	340,000,000	28,000,000	100,000,000	240,000,000	100,000,000	370,000,000	58,000,000

[1] The figures in this table are net gallons used by motor vehicles except as follows: Nebraska allows 3 per cent reduction for evaporation, and exempts from taxation gasoline destroyed by fire, as well as that used by State and Federal cars; New Mexico and Wyoming allow no refunds; and Utah permits 2 per cent reduction for evaporation.
[2] All reports are from U. S. Bureau of Public Roads except Oregon which is calculated from Oregon State Highway Commission figures on gasoline taxation, refunds deducted.

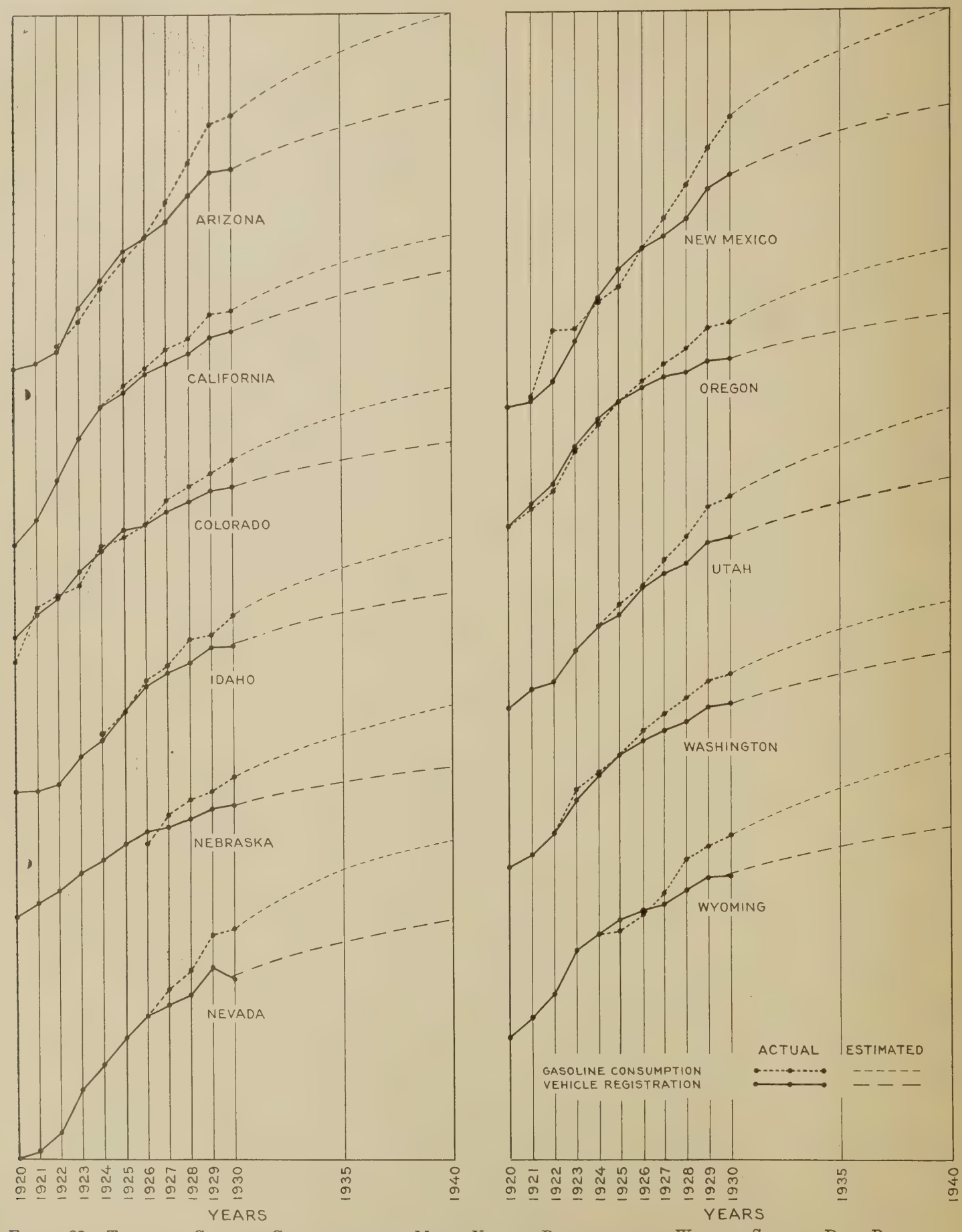


FIGURE 28.—TRENDS OF GASOLINE CONSUMPTION AND MOTOR-VEHICLE REGISTRATION IN WESTERN STATES. DATA PLOTTED ON LOGARITHMIC SCALE AND MOVED TOGETHER VERTICALLY FOR COMPARISON

EFFECT OF PRESENT DEPRESSION ON FORECAST IN WESTERN STATES

General trends were considered in arriving at figures in the Western States forecasts. Previous business slumps have checked the rate of decline in persons per car for a year or two, and in a few States for a longer period, but this ratio has always returned to its general trend, as is clearly illustrated in Figures 29 and 30. Although the present depression is more severe, reversal of trend in ownership of motor vehicles is not anticipated.

Statistics show that while registration barely held its own in 1930, gasoline consumption and traffic have had definite increases.

MILES PER GALLON

Where data have been obtained on the operation of any considerable number of passenger cars it has been found that the average miles per gallon is around 15. Some individual records are as high as 23 miles per gallon, others as low as 11.

Some investigators have suggested 11,000 miles as an average annual mileage, others indicate that the figure is much lower, from 6,000 to 10,000 miles.

Using 8,000 miles per year as the travel of each registered vehicle in the United States and dividing the number of gallons of gasoline consumed into the vehicle mileage, an average of 14.38 miles per gallon is the result. Were the 11,000 miles per vehicle used, the result would be 19.78 miles per gallon for all vehicles.

The rapid increase during the decade 1920–1930 in trucks (246 per cent net) as compared to passenger cars (180.1 per cent net), may appear to have considerable effect upon miles per gallon for all vehicles.

However, trucks amounted to 10.9 per cent of total registration in 1920, and 13.1 per cent in 1930. If 15 miles per gallon were used for passenger cars and 8 miles per gallon for trucks, the weighted average in 1920 would be 14.24 miles per gallon as compared with 14.08 in 1930.

In a truck survey by the General Motors Corporation involving 46,000 trucks, the miles per gallon for light, medium, and heavy trucks are given. When weighted by percentage of each capacity, the average for all is 11.25 miles per gallon. Using 11.25 for trucks and the above 15 for passenger cars, the weighted average in 1920 was 14.59, and in 1930, 14.51 miles per gallon. In one case, the decrease was sixteen-hundredths, and the other eight-hundredths of a mile per gallon in the last 10 years. The point is that truck registration (including busses) is so small as compared to total registration that the reduction in miles per gallon for all vehicles is small indeed.

This small change in average miles per gallon is an indication that little additional traffic may be estimated from this factor.

PERSONS PER MOTOR VEHICLE

The number of persons per car was found for each State from 1913 to 1930 and extended to 1940, based on population as of July 1. (Table 34.) These are shown graphically since 1914, 1915, or 1916 (Figs. 29 and 30.) The number in 1913 is often more than double the 1915 or 1916 figure, and can not conveniently be shown on these charts.

The curves are all quite similar in that during the first five or six years the decline was rapid. Also in most States, during 1921 and 1922, these downward trends were checked sharply, after which the curves became smooth and tended to flatten out more and more each year. Due to business conditions, persons per car in 1930 were affected somewhat as in 1921 and 1922.

States with large deviations from the trend are as follows: Wyoming and New Mexico for three years; Idaho for five years; and Arizona and Nevada for two years. Practically all States had a high or low registration during one of the years 1917, 1918, or 1919, which caused persons per car to be above or below the general trend in that particular year.

Registration, therefore, during years of depression may be low when compared with the general trend. It is interesting to note the rapid recovery in most States in 1923 after the very sharp deviation from the trend in 1921 and 1922.

TABLE 34.—*Actual number of persons per motor vehicle, from 1915 to 1930 and values from trend curve for same period and extended to 1940*

Year	Arizona		California		Colorado		Idaho		Nebraska		Nevada		New Mexico		Oregon		Utah		Washington		Wyoming	
	Actual	Estimated from trend curve	Actual	Estimated from trend curve	Actual	Estimated from trend curve	Actual	Estimated from trend curve	Actual	Estimated from trend curve	Actual	Estimated from trend curve	Actual	Estimated from trend curve	Actual	Estimated from trend curve	Actual	Estimated from trend curve	Actual	Estimated from trend curve	Actual	Estimated from trend curve
1915	35.30	35.30	17.84	17.84	30.26	30.26	54.11	54.11	21.15	21.15	39.56	36.00	67.65	67.60	31.04	31.04	45.13	45.13	32.38	31.00	43.25	43.25
1916	23.36	23.40	13.12	13.12	20.53	20.53	30.28	30.28	12.44	12.30	16.06	16.50	42.30	42.30	21.92	21.92	31.24	31.24	21.06	20.80	24.83	24.83
1917	15.12	16.00	10.29	10.29	13.51	13.90	16.36	17.20	8.57	8.60	10.97	11.40	24.95	26.00	15.52	15.52	17.85	18.60	14.25	14.25	14.53	14.80
1918	13.14	13.14	8.95	8.40	11.02	11.00	12.87	12.60	7.38	7.38	9.57	9.60	20.10	20.80	12.10	12.10	13.56	13.80	11.28	11.28	11.54	11.40
1919	11.30	11.30	7.06	7.06	8.89	8.90	10.10	10.10	6.46	6.46	8.34	8.30	19.80	18.60	9.33	9.33	12.64	12.00	9.04	9.04	8.98	9.00
1920	9.80	9.90	6.10	6.10	7.31	7.31	8.60	8.60	5.94	5.94	7.46	7.45	16.40	16.40	7.63	7.60	10.61	10.60	7.87	7.86	8.19	7.60
1921	9.80	8.90	5.52	5.20	6.54	6.30	8.46	7.55	5.48	5.48	7.33	6.60	16.38	14.60	6.81	6.60	9.64	9.60	7.48	6.80	7.41	6.70
1922	9.44	8.10	4.61	4.38	5.93	5.60	8.08	6.80	5.13	5.05	6.67	5.90	14.74	12.80	6.13	5.80	9.43	8.70	6.68	6.05	6.59	5.90
1923	7.50	7.30	3.81	3.81	5.15	5.05	7.00	6.10	4.63	4.63	5.22	5.20	11.92	11.10	5.06	5.10	7.88	7.83	5.53	5.40	5.15	5.20
1924	6.55	6.50	3.35	3.45	4.60	4.60	6.32	5.60	4.32	4.31	4.60	4.50	9.31	9.42	4.46	4.50	6.95	7.00	4.90	4.90	4.77	4.80
1925	5.71	5.82	3.21	3.21	4.13	4.20	5.39	5.10	3.96	4.00	4.00	4.00	8.03	8.19	4.04	4.10	6.55	6.40	4.47	4.47	4.42	4.42
1926	5.41	5.45	3.03	3.05	4.02	3.95	4.65	4.70	3.67	3.75	3.58	3.65	7.28	7.26	3.81	3.85	5.70	5.80	4.10	4.10	4.29	4.25
1927	5.04	5.00	3.00	2.97	3.76	3.76	4.36	4.35	3.63	3.60	3.39	3.35	6.85	6.53	3.70	3.70	5.24	5.30	3.92	3.92	4.16	4.10
1928	4.43	4.55	2.94	2.90	3.58	3.58	4.09	4.10	3.49	3.45	3.24	3.20	6.28	5.94	3.63	3.60	4.88	4.90	3.79	3.75	3.89	3.95
1929	3.93	4.20	2.79	2.85	3.39	3.45	3.79	3.90	3.28	3.30	2.84	3.05	5.34	5.46	3.44	3.50	4.47	4.60	3.50	3.60	3.68	3.81
1930	3.96	3.96	2.80	2.80	3.37	3.36	3.74	3.70	3.21	3.20	3.08	2.95	5.05	5.05	3.45	3.40	4.47	4.40	3.52	3.45	3.68	3.68
1935		3.46		2.63		3.01		3.13		2.93		2.64		4.18		3.20		3.84		3.13		3.34
1940		3.25		2.54		2.83		2.86		2.75		2.46		3.86		3.12		3.54		2.95		3.17

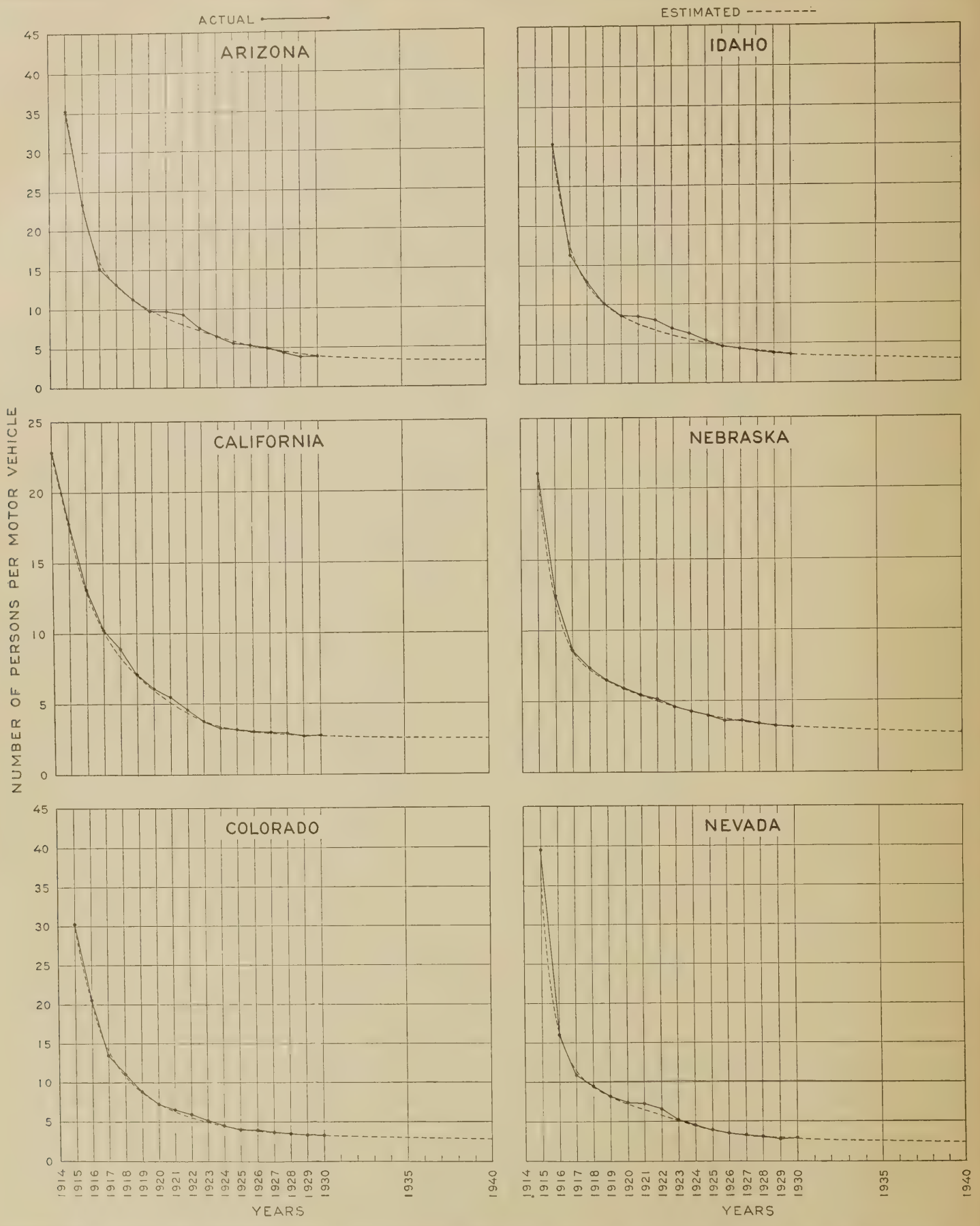


FIGURE 29.—ACTUAL AND ESTIMATED TREND OF NUMBER OF PERSONS PER MOTOR VEHICLE FROM 1915 TO 1930 AND ESTIMATES FOR 1935 AND 1940

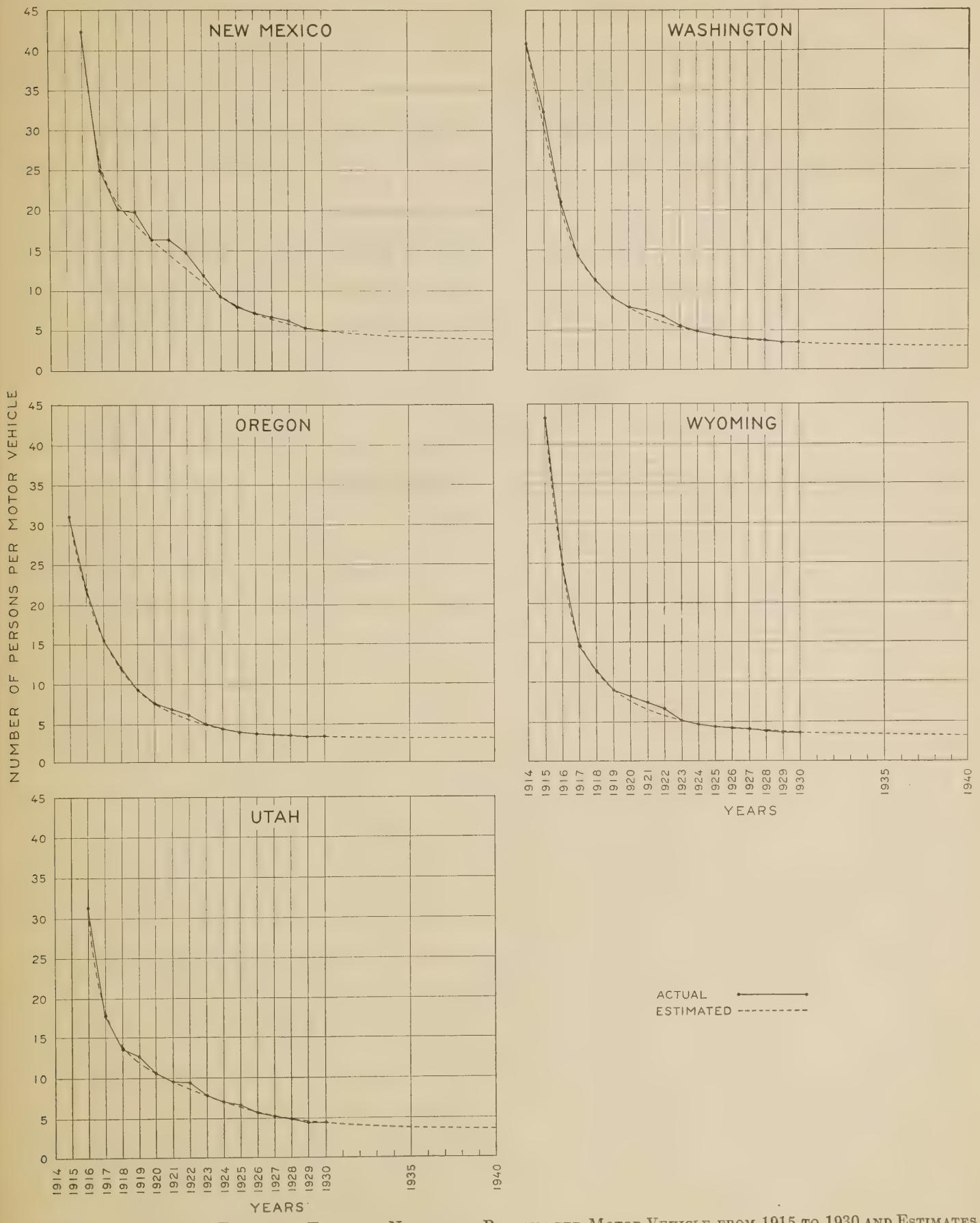


FIGURE 30.—ACTUAL AND ESTIMATED TREND OF NUMBER OF PERSONS PER MOTOR VEHICLE FROM 1915 TO 1930 AND ESTIMATES FOR 1935 AND 1940

AVAILABLE DATA FOR FORECASTS

Registration data are available for all States for all years since 1913. Records of gasoline consumption are available as shown in Table 33. Registrations by counties are obtainable beginning with the following years: Arizona, 1921; California, 1914; Colorado, 1920; Nevada, 1927; Oregon, 1920; Utah, 1927; Washington, 1921; and Wyoming, 1922. Similar figures are available in Nebraska beginning in 1913, but with the exception of 1919 to 1922.

Records of county gasoline consumption are available as follows: Arizona, July, 1924 to July, 1929; Colorado, 1927 to 1929, gross, 1913 to 1929; Idaho, 1927 to 1930; and Washington, July, 1924, to July, 1928.

In addition to the above, traffic data are available in California, 1926 to 1930; Oregon, 1923 to 1929; and meager material in Nebraska from 1926 to 1929.

FORECASTING GASOLINE CONSUMPTION AND TRAFFIC

Actual gasoline consumption is plotted as abscissas against actual registration as ordinates, and the trend projected for future years. Estimated registration for future years as determined from estimated persons per vehicle and estimated population, is located on this trend line and gasoline consumption is read on the abscissa from the curve. These figures are then checked against their own extended trends upon separate charts of the historical series of registration and gasoline consumption.

Traffic forecasts are based largely on projected gasoline consumption increases. Consideration is given to the nature of the gasoline figures whether for net or gross consumption, to the amount of foreign traffic recorded in the 1929–1930 survey, and to local conditions in general, before the specific amount of traffic is forecast for a particular State.

STATE FORECASTS

Arizona

Registration in Arizona is estimated at 141,000 cars in 1935, or 27.6 per cent increase over 1930, and at 165,000 cars in 1940, which is 49.3 per cent more than in 1930.

Gasoline consumption in 1935 is forecast at 97,000,000 gallons, or 45.3 per cent increase over 1930, and 120,000,000 gallons in 1940, or 79.8 per cent more than 1930.

In arriving at these figures consideration was given to the fact that during the 1929–1930 traffic survey 38.5 per cent of all traffic was foreign. That is, 1 vehicle-mile in each 2.6 vehicle-miles was traveled by a foreign vehicle. Arizona showed a higher percentage of foreign traffic than any other of the Western States.

For forecasting purposes the counties of the State were divided into two groups, A and B, according to population density. Group B, consisting of the four northern counties, Apache, Coconino, Mohave, and Navajo, contained in 1930, 46.8 per cent of area, 13.5 per cent of population, 7.7 per cent of registration, and 11.2 per cent of gasoline consumption. Group A, made up of the 10 southern counties, Cochise, Gila, Graham, Greenlee, Maricopa, Pima, Pinal, Santa Cruz, Yavapai, and Yuma, with 53.2 per cent of area had 86.5 per cent of population, 92.3 per cent of registration, and 88.8 per cent of gasoline consumption. All of the above factors except area have increased faster in Group B than in Group A. Foreign traffic ratio in Group B in the survey amounted to not quite double the ratio of that in Group A.

The traffic forecast over that of 1930 for Group A in 1935 is 40 per cent, Group B, 43 per cent; in 1940, Group A, 71 per cent, Group B, 76 per cent. The traffic forecast is held conservatively under that of gasoline consumption.

California

In 1930 California had 50.8 per cent of all registration and consumed 52.2 per cent of all gasoline in the 11 Western States. Its foreign traffic of 4.9 per cent was the least (on percentage basis only) of any of these States. This low figure was due to the enormous amount of local traffic.

Registration is estimated at 2,520,000 cars in 1935, or 23.5 per cent increase over 1930, while registration is expected to be 2,900,000 in 1940, or an increase of 42.1 per cent over 1930.

Gasoline consumption is forecast to be 1,523,000,000 gallons in 1935, an increase over 1930 of 31 per cent; in 1940 it is estimated to be 1,800,000,000 gallons, or 54.9 per cent increase over 1930.

California was divided into three groups, A, B, C. A consists of 5 counties along the coast around Los Angeles. B includes 20 counties along the coast north of the first group and surrounding San Francisco and Sacramento. Group C includes the 33 remaining counties of the State. The counties are as follows: Group A, Los Angeles, Orange, San Diego, Santa Barbara, and Ventura; Group B, Alameda, Contra Costa, Del Norte, Humboldt, Lake, Marin, Mendocino, Monterey, Napa, Sacramento, San Francisco, San Joaquin, San Luis Obispo, San Mateo, Santa Clara, Santa Cruz, Solano, Stanislaus, and Yolo; Group C, Alpine, Amador, Butte, Calaveras, Colusa, Eldorado, Fresno, Glenn, Imperial, Inyo, Kern, Kings, Lassen, Madera, Mariposa, Merced, Modoc, Mono, Nevada, Placer, Plumas, Riverside, San Benito, San Bernardino, Shasta, Sierra, Siskiyou, Sutter, Tehama, Trinity, Tulare, Tuolumne, and Yuba.

Group A, with an area of 8.8 per cent, had 47 per cent of the population and 49.9 per cent of the registration. Group B, with 18.2 per cent of the area, had 36.2 per cent of the population, and 32.7 per cent of the registration. Group C, with 73 per cent of the area, had only 16.8 per cent of the population and 17.4 per cent of the registration. The section along the coast, Groups A and B, with 27 per cent of the area, had 83.2 per cent of the population and 82.6 per cent of the registration.

Traffic increases over that of 1930 for California are as follows: In 1935, Group A, 31.8 per cent; Group B, 27.9 per cent; Group C, 25.5 per cent. In 1940, Group A, 56.1 per cent; Group B, 49.3 per cent; and Group C, 45.2 per cent.

Colorado

Registration and gasoline consumption in Colorado had quite similar trends to 1926, when they began to separate, as illustrated in Figure 28.

In 1935 registration is estimated at 360,500 vehicles, or 16.9 per cent increase over 1930; and in 1940 it should be 400,000 vehicles, which is 29.7 per cent more than 1930.

Gasoline consumption in 1935 is forecast at 199,000,000 gallons, or 29.5 per cent increase over 1930; and at 232,000,000 gallons in 1940. This is 51 per cent more than in 1930.

Colorado was divided into three groups: Group A, with 15 northeastern counties—Adams, Arapahoe, Boulder, Clear Creek, Denver, Gilpin, Jefferson, Larimer, Logan, Morgan, Phillips, Sedgwick, Washington, Weld, and Yuma; Group B, with 16 southeastern counties—Baca, Bent, Cheyenne, Crowley, Douglas, Elbert, El Paso, Huerfano, Kiowa, Kit Carson, Las Animas, Lincoln, Otero, Prowers, Pueblo, and Teller; and Group C, the western half of the State, with 32 counties—Alamosa, Archuleta, Chaffee, Conejos, Costilla, Custer, Delta, Dolores, Eagle, Fremont, Garfield, Grand, Gunnison, Hinsdale, Jackson, Lake, La Plata, Mesa, Mineral, Moffat, Montezuma, Montrose, Ouray, Park, Pitkin, Rio Blanco, Rio Grande, Routt, Saguache, San Juan, San Miguel, and Summit.

Group A with less than one-fifth of area had in 1930 more than half the population and registration. In Group B there was less than 5 per cent difference for all three factors, while Group C, with over half of area, had about one-fifth the population and slightly less registration. The population density in persons per square mile was as follows: Group A, 27.9; Group B, 9.1; and Group C, 3.8.

During the last decade increase in population was greater in Group A than in Groups B and C. In registration the opposite was true, Group C increasing at a higher rate than Groups A or B, with Group A slightly more than Group B.

The percentage increase in traffic over 1930 is forecast as follows: In 1935, Group A, 26.9; Group B, 26; Group C, 29.9. In 1940, Group A, 47.3; Group B, 45.8; Group C, 52.6.

Idaho

Population in Idaho increased only 3 per cent from 1920 to 1930, with individual counties varying from 40 per cent decrease to 45 per cent increase.

Foreign vehicles accounted for about one in each 4½ miles traveled in this State.

Population density divides Idaho into four separate groups, three of which can be combined for traffic forecasts. The fourth group, consisting of more than half the area, is sparsely settled, with but one-ninth of the State population in 1930. Average traffic in this group is so small that the difference in rate of increase of traffic would not change the status of roads between 1930 and 1940, therefore, the State is treated as a unit.

Registration is estimated at 144,000 cars in 1935, or 20.9 per cent increase over 1930, and at 160,000 cars in 1940, which is 34.4 per cent more than in 1930.

Gasoline consumption is estimated to be 71,221,000 gallons in 1935, and 84,000,000 gallons in 1940. This is an increase in 1935 of 30.9 per cent in 1930, and 54.4 per cent in 1940.

The traffic increase over 1930 for Idaho is estimated as 29 per cent in 1935, and 52 per cent in 1940.

Nebraska

Actual persons per car in Nebraska from 1915 to 1930, are in almost perfect agreement with the smooth line representing trend drawn through these points. (Fig. 29.) Registration is estimated at 485,000 motor vehicles in 1935, an increase of 13.8 per cent over 1930, and 530,000 cars in 1940, or 24.4 per cent more than 1930.

Gasoline consumption is estimated to be 289,000,000 gallons in 1935, and 340,000,000 gallons in 1940. The percentage increase over 1930 is 27.6 in 1935, and 50.1 in 1940.

Nebraska was divided into six groups of counties by density of population, but persons per car indicated similar increases for three of these which were combined. Group A contains 41 counties as follows: Antelope, Boone, Burt, Butler, Cass, Cedar, Clay, Colfax, Cuming, Dakota, Dixon, Dodge, Douglas, Fillmore, Gage, Hamilton, Jefferson, Johnson, Knox, Lancaster, Madison, Merrick, Nance, Nemaha, Nuckolls, Otoe, Pawnee, Pierce, Platte, Polk, Richardson, Saline, Sarpy, Saunders, Seward, Stanton, Thayer, Thurston, Washington, Wayne, and York. Group B has 36 counties, Adams, Banner, Buffalo, Box Butte, Chase, Cheyenne, Custer, Dawes, Dawson, Deuel, Dundy, Franklin, Frontier, Furnas, Garden, Gosper, Greeley, Hall, Harlem, Hays, Hitchcock, Howard, Kearney, Keith, Kimball, Lincoln, Morrill, Perkins, Phelps, Redwillow, Scotts Bluff, Sheridan, Sherman, Sioux, Valley, and Webster. This group includes the southern half of the State west of Group A, and a block of counties north of Colorado in the extreme western part of the State. Group C has nine counties north of Group B and west of Group A as follows: Blaine, Boyd, Brown, Garfield, Holt, Keyapaha, Loup, Rock, and Wheeler. Group D has seven counties as follows: Arthur, Cherry, Grant, Hooker, Logan, McPherson, and Thomas. In Group C and D population decreased during the period 1920 to 1930.

The percentage increase in traffic in 1935 over 1930 is forecast as follows: Group A, 24.9 per cent; Group B, 29.6 per cent; Group C, 24.1 per cent; Group D, 36 per cent. The increase by 1940 is estimated for Group A, 44.1 per cent; Group B, 52.7 per cent; Group C, 42.9 per cent; Group D, 64.1 per cent.

Nevada

The density of population in Nevada is less than three persons per square mile in all counties except two—Washoe with 4.3, and Ormsby with 14.2. For the State it is 0.8, the lowest for any State in the United States.

Persons per car in 1930 were slightly higher than in 1929, due to business inactivity. This is similar to the situation in 1921 and 1922. Registration is estimated at 37,100 cars in 1935, and 42,500 cars in 1940. The percentage increase over 1930 is 25.2 in 1935, and 43.4 in 1940.

The estimate for gasoline consumption is 23,500,000 gallons in 1935, and 28,000,000 gallons in 1940, or an increase over 1930 of 39.3 per cent and 65.9 per cent, respectively.

Traffic is forecast to increase 35 per cent by 1935 over 1930, and 62 per cent by 1940 over the same base year.

The decline of registration in Nevada during 1930 is similar to the condition in 1921 and 1922, but the volume of foreign traffic (31.1 per cent) has tended to hold gasoline consumption more nearly to the general trend.

New Mexico

Gasoline consumption during the period of 1926 to 1930 increased at a faster rate in New Mexico than in the 10 other States of this survey. There have been no refunds on gasoline taxed in this State. However, the tax is 1 cent higher than in neighboring States,

indicating that gasoline sales are a minimum measure of gasoline consumption for all purposes within its borders.

No attempt was made to estimate the probable amount on which refunds might have been made, but the traffic forecast is kept considerably under the percentage increases for gasoline in 1935 and 1940.

Gasoline consumption in 1920 is omitted from Table 33 and Figure 28 because it appears to be very incomplete.

Registration is estimated to be 109,000 and 126,000 cars in 1935 and 1940, increases of 29. 5 per cent and 49.7 per cent, respectively, over that of 1930.

The estimate of total gasoline consumption in 1935 is 79,000,000 gallons, a 45.3 per cent increase, 1930 to 1935; and in 1940, it is 100,000,000 gallons, which is 83.9 per cent increase, 1930 to 1940.

Foreign traffic in New Mexico is 37.6 per cent of the total, only slightly less than in Arizona, where it was 38.5 per cent, the highest of any State of the survey.

Traffic increase over 1930 in New Mexico is forecast at 40.5 per cent in 1935, and 73 per cent in 1940.

Oregon

Historical relationships between registration, traffic, and gasoline consumption have been discussed previously.

Registration is estimated to be 325,000 cars in 1935, and 360,000 cars in 1940. The increases over 1930 are 17.3 per cent and 30 per cent, respectively.

The 1930 registration of 277,000 is an estimate based on six months' registration of .256,848. The percentage to be added to the first six months was largely determined by the amount of increase in gasoline consumption. An index of both for the past seven years shows that percentage increase in registration in no year exceeded the percentage increase of gasoline consumption in Oregon.

Gasoline consumption is estimated to be 203,000,000 gallons in 1935, and 240,000,000 in 1940. The increase over 1930 would be 30.9 per cent and 54.8 per cent for 1935 and 1940, respectively.

Gasoline consumption and traffic trends indicate an increase in traffic over that in 1930 of 28 per cent in 1935, and 51 per cent in 1940.

The percentage increase in traffic previous to 1930 and the estimates for 1935 and 1940, are quite similar to those in California. However, the rate of registration increase in Oregon has been much less than in California. The foreign traffic of 22.1 per cent in Oregon is in contrast with but 4.9 per cent in California. The higher proportion of foreign traffic in Oregon may be expected to offset the lower rate of increase in registration with the result that traffic in Oregon will increase at a rate quite similar to that of California.

Oregon was divided into two groups: Group A, in the western part of the State, and Group B, the remainder, about equal in area. In Group A are almost eight-ninths of the registration and population of the State. Much conflicting data were found in comparing these areas. Registration increased faster in Group A, while traffic increased much more rapidly in Group B. Population increased in Group A and decreased slightly in Group B. One-fifth of traffic in Group A was foreign, while more than one-third in Group B was foreign.

Weighing all factors, it was found that traffic increases for 1935 and 1940 varied only slightly in the two groups. Therefore, the State was considered as a whole.

Utah

While no refunds of gasoline taxes are made in Utah for gasoline used for purposes other than highway transportation, a deduction of 2 per cent for evaporation and handling exempted from taxation about 1,200,000 gallons of gasoline in 1930.

Registration in Utah is estimated to be 140,000 cars in 1935 and 160,000 cars in 1940. The increases over 1930 are 22.8 per cent and 40.4 per cent, respectively.

The taxable gasoline consumption is forecast to be 80,500,000 gallons in 1935, or an increase of 33.9 per cent over 1930; and 100,000,000 gallons in 1940, or 66.3 per cent more than in 1930.

The traffic survey showed that one vehicle-mile in seven was traveled by a foreign vehicle.

Notwithstanding the short series of county registration, great differences between sections made it advisable to divide the State. Nine counties, Cache, Davis, Morgan, Rich, Salt Lake, Summit, Utah, Wasatch, and Weber in the north-central part of the State around Salt Lake City were designated as Group A, and the remainder of the State as Group B.

In 1930 Group A had about one-ninth of the area and almost three-fourths of the registration. Population increased faster in Group A, while registration increased considerably more in Group B. The percentage of foreign traffic in Group B was almost double that of Group A in the recent survey.

The percentage increase over 1930 is forecast as follows: In 1935, Group A, 29.2, and Group B, 36.2; in 1940, Group A, 56.4; and Group B, 70.3.

Washington

Registration in Washington is estimated at 533,000 cars in 1935 and 600,000 cars in 1940, or increases of 19.5 per cent and 34.5 per cent, respectively, over that of 1930.

Gasoline consumption is placed at 313,000,000 gallons in 1935 and 370,000,000 gallons in 1940, amounting to increases of 29.5 per cent in 1935 and 53 per cent in 1940 over that of 1930.

The foreign traffic of 11.4 per cent in this State was the least ratio in any Western State except California.

Washington was divided into two groups: Group A with 19 western counties as follows: Clallam, Clark, Cowlitz, Grays Harbor, Island, Jefferson, King, Kitsap, Lewis, Mason, Pacific, Pierce, San Juan, Skagit, Skamania, Snohomish, Thurston, Wahkiakum, and Whatcom; and Group B with 20 eastern counties, Adams, Asotin, Benton, Chelan, Columbia, Douglas, Ferry, Franklin, Garfield, Grant, Kittitas, Klickitat, Lincoln, Okanogan, Pend Oreille, Spokane, Stevens, Walla Walla, Whitman, and Yakima. Group A with slightly more than one-third of the area had in 1930 about 70 per cent of the population, registration, and traffic. Population density in Group A was more than four times that of Group B.

All factors increased more rapidly in western Washington than in the eastern portion, while in western Oregon this was true only of population and registration. Traffic increased more rapidly in eastern Oregon,

while gasoline consumption increased faster in western Washington.

The traffic forecasts expressed as a percentage increase over 1930 are as follows: In 1935, Group A, 30, and Group B, 24; in 1940, Group A, 53.5, and Group B, 42.3.

Wyoming

Gasoline figures reported in Wyoming are for total sales, with no reduction for the amount used in other than motor vehicles on public roads.

A comparison of trends of gasoline consumption and registration is shown in Figure 28. It will be noticed that the divergence of these trends has increased rapidly, especially during recent years. Part of this divergence is due to increasing use of gasoline in airplanes, tractors, etc., but more largely to the greater use per car and the large amount of foreign traffic, which was 28.6 per cent of all traffic.

A registration of 72,400 vehicles is forecast for 1935, and 81,000 vehicles in 1940. These are increases over 1930 of 17.7 per cent in 1935, and 31.7 per cent in 1940.

Gasoline consumption is estimated to be 48,000,000 gallons in 1935, an increase of 32.7 per cent over 1930, and 58,000,000 gallons in 1940, an increase of 60.3 per cent over 1930.

Only one county, Laramie, has a population density as high as 10 persons per square mile. Six other counties have three or more persons per square mile.

In dividing Wyoming, three counties, Goshen, Laramie, and Platte in the southeast corner of the State, were designated as Group A, and the remainder of the State as Group B. The population density of Group A is 7, and of Group B, 2 persons per square mile.

Group A, with one-fourteenth of the area of the State, has more than one-fifth of the population and registration in 1930. Unlike Utah, the more densely populated area, Group A, increased more rapidly in registration than the sparsely settled Group B.

Traffic is forecast to increase over that of 1930 as follows: In 1935, Group A, 32.7 per cent, and Group B, 29.3 per cent; in 1940, Group A, 60.8 per cent, and Group B, 54.5 per cent.

Forecasts for individual stations for 1935 and 1940 appear in Table 37 of the Appendix.

Local conditions, as well as changes affecting the highway system, new routes, through traffic, and the condition of the road itself, will influence traffic on certain sections of the system, so it is not expected that the estimates for 1935 and 1940 will in all cases predict the actual traffic at each station.

TRAFFIC CLASSIFICATION OF THE FEDERAL-AID SYSTEM

In the determination of a consistent program of economical highway improvement it is essential to consider the present traffic and also the traffic anticipated throughout the life of the proposed improvement. For this purpose the highways of the 11 States studied are classified in three traffic groups: Heavy, intermediate, and light, as indicated in Table 35. The classification of each highway section is shown on Plate 13. (See envelope containing maps.)

Table 35.—*Classification limits based on average daily vehicles in 1930, 1935, and 1940*

[Heavy traffic represents over 1,500 vehicles per day; intermediate, 600 to 1,500; light, under 600]

Classification	1930	1935	1940
A	Over 1,500	Over 1,500	Over 1,500.
B	600 to 1,500	do	Do.
C	do	600 to 1,500	Do.
D	do	do	600 to 1,500.
E	Under 600	do	Do.
F	do	Under 600	Do.
G	do	do	Under 600.

The Federal-aid system has been classified using mileage figures submitted by the various States as of June 30, 1930. The routes are carried continuously through all cities regardless of population.

The mileage included in each classification group by individual States is summarized in Table 36, which indicates the general increase of heavy-traffic and intermediate-traffic routes. The heavy-traffic mileage increases from 11.3 per cent of the total mileage in 1930, to 14 per cent in 1935, and to 16 per cent in 1940. The total of the heavy and intermediate-traffic routes increases from 29.3 per cent of the total mileage in 1930, to 36.1 per cent in 1935, and to 41 per cent in 1940.

Practically half the class A highways (heavy traffic in 1930) are found in California, with Washington and Oregon adding some 1,200 miles. These three coast States contain more than three-fourths of all the class A mileage. The remainder is distributed throughout the other States, in large degree according to the size and location of the centers of population.

The mileage coming into the heavy-traffic classification in 1935 and 1940 (classes B and C) is by no means proportional to the mileage now in this classification in the various States. Nebraksa, Nevada, and New Mexico will practically quadruple their present mileage of heavy-traffic highways by 1940, while Wyoming which now has none, will have 68 miles in 1940. California and Washington with their present large mileage of heavy-traffic highways show relatively little increase, and although Utah is low in class A mileage, present traffic is so concentrated that there is practically no increase in its heavy-traffic highways by 1940. Oregon, with 339 miles in classes B and C adds the greatest mileage to its heavy-traffic highways between 1930 and 1940.

The distribution of intermediate-traffic highways is entirely different from that of the heavy-traffic highways. Nebraksa, with its more evenly distributed population and greater mileage of highway per square mile, leads in the intermediate-traffic class, with nearly 1,500 miles and marked increases in this class are anticipated by 1935 and 1940. The mileage which will change from the light-traffic to the intermediate-traffic classification far exceeds that which will change to the heavy-traffic classification. A similar condition is found to a greater or less degree in every State except California and Washington.

The light-traffic highways decrease in each of the States during the 10-year period. California shows

TABLE 36.—*Traffic classification of Federal-aid routes of the Western States—Mileage as of June 30, 1930*

	Heavy traffic						Intermediate traffic						Light traffic						Unclassified	
	1930		1935		1940		1930		1935		1940		1930		1935		1940		1930	
	Miles	*Per cent*	*Miles*	*Per cent*	*Miles*	*Per cent*	*Miles*	*Per cent*	*Miles*	*Per cent*	*Miles*	*Per cent*	*Miles*	*Per cent*	*Miles*	*Per cent*	*Miles*	*Per cent*	*Miles*	*Per cent*
Arizona	115.1	5.8	165.9	8.3	178.9	9.0	399.4	20.0	670.6	33.7	903.9	45.4	1,441.4	72.5	1,119.4	56.3	873.1	43.9	33.7	1.7
California	2,015.9	39.5	2,272.1	44.5	2,339.1	45.8	1,130.8	22.1	1,042.8	20.4	1,115.9	21.8	1,857.5	36.3	1,689.3	33.0	1,549.2	30.3	105.9	2.1
Colorado	334.9	10.3	382.4	11.8	528.0	16.3	722.5	22.4	925.8	28.6	1,091.1	33.7	2,130.8	65.7	1,880.0	58.0	1,569.1	48.4	50.8	1.6
Idaho	109.6	3.5	155.1	5.0	221.2	7.1	355.7	11.5	475.5	15.4	520.8	16.9	2,343.6	75.9	2,178.3	70.5	2,066.9	66.9	281.9	9.1
Nebraska	66.4	1.1	190.9	3.3	245.7	4.2	1,482.1	25.5	1,830.6	31.5	1,974.2	34.0	3,449.7	59.5	2,976.7	51.3	2,778.3	47.9	803.4	13.9
Nevada	12.1	.8	29.5	1.9	50.1	3.2	55.2	3.5	90.2	5.7	80.6	5.1	1,370.3	87.5	1,317.9	84.2	1,306.9	83.5	128.4	8.2
New Mexico	25.5	.7	69.5	2.0	118.4	3.4	321.2	9.3	660.2	19.2	953.4	27.8	3,090.6	90.0	2,707.6	78.8	2,365.5	68.8	-------	------
Oregon	440.5	13.3	581.8	17.5	779.6	23.4	796.2	23.9	926.4	27.9	886.6	26.8	1,995.0	60.2	1,723.5	52.0	1,565.5	47.2	86.8	2.6
Utah	169.9	9.6	172.7	9.8	172.7	9.8	75.1	4.3	149.3	8.4	201.5	11.3	1,518.3	85.4	1,441.3	81.1	1,389.1	78.2	12.0	.7
Washington	772.4	24.6	949.8	30.3	1,030.9	32.9	898.3	28.7	795.0	25.3	866.6	27.6	1,368.3	43.6	1,294.2	41.3	1,141.5	36.4	97.6	3.1
Wyoming	-------	------	52.8	1.5	67.9	1.9	228.1	6.5	378.7	10.9	404.1	11.7	3,109.9	89.9	2,906.5	84.0	2,866.0	82.8	125.3	3.6
Total	4,062.3	11.3	5,022.5	14.0	5,732.5	16.0	6,464.6	18.0	7,945.1	22.1	8,998.7	25.0	23,675.4	65.9	21,234.7	59.1	19,471.1	54.2	1,725.8	4.8

the lowest percentage of this class in all years, and Arizona shows the greatest percentage decrease from 1930 to 1940. Nevada and Wyoming have the greatest percentage of this class, each with over 80 per cent classed as having light traffic in 1940.

Of the various through routes U. S. 99 is outstanding. This route spans the country from north to south through Washington, Oregon, and California and is expected by 1935 to carry heavy traffic throughout its entire length with the exception of a short section at the Oregon-California line. This route now carries heavy traffic from Bellingham, Wash., to Drain, Oreg., and through California from Willows to El Centro. U. S. 101 from San Francisco to San Diego, although not an interstate route, carries heavy traffic throughout a distance of over 550 miles.

No east-and-west route is so heavily traveled as U. S. 99 and U. S. 101. U. S. 80, from San Diego through Yuma, Phoenix, and Lordsburg to Las Cruces, whence it continues as U. S. 366 through New Mexico via Roswell and Clovis now carries heavy traffic only in southern California and in the vicinity of Phoenix. The traffic by 1940 will be such as to place practically the entire route in the intermediate or heavy-traffic classification. Another relatively heavily traveled east-west route is U. S. 30, from Omaha through Nebraska, Wyoming, Idaho, and Oregon to Astoria. The section from Omaha to Laramie is now, or by 1935 will be, carrying heavy or intermediate traffic. From Laramie through Wyoming the route will carry light traffic in 1940, with the exception of short sections near the various cities, but from McCammon, Idaho, through that State and Oregon to Astoria, all but a small portion will carry either intermediate or heavy traffic by 1935.

U. S. 40, through Colorado, Utah, Nevada, and California, the northern route to California, carries but little traffic according to the year-round average. The only sections of this route carrying traffic above the light classification are those in Colorado from the Kansas line to Denver, in the vicinity of Salt Lake City and Reno, and in California from Emigrant Gap to San Francisco.

The only other through route carrying traffic noticeably heavier than the average is U. S. 85 from El Paso through New Mexico, Colorado, and Wyoming. Over a good portion of this route—from Los Lunas, N. Mex., through Colorado to Cheyenne, Wyo.—the traffic is intermediate or heavy.

Other routes or sections of routes carrying heavy or intermediate traffic can nearly all be found either within or connecting various economic areas. An investigation of the traffic classification map shows these areas well defined around Salt Lake City, Seattle, Spokane, San Francisco, and Los Angeles, and including eastern Nebraska, eastern Colorado, southern Idaho, and western Oregon and Washington. The location and extent of these routes show the insignificance of State lines or other artificial boundaries in determining traffic flow. The routes extend from State to State with little or no change in traffic classification, but change noticeably as they progress from a center of population, or approach a natural barrier to travel.

A study of the changes in traffic classification during the 10-year period indicates its usefulness in the formulation of a long-time plan of highway improvement.

PREPARATION OF PROGRAMS OF ROAD CONSTRUCTION

THE traffic data provided by the survey may be used in each State as the basis for the preparation of a program of road construction, reconstruction, and maintenance consistent with traffic requirements during the ensuing 10-year period. For this purpose the characterization of traffic as heavy, medium, and light, and the classification of the various sections of highway according to the character of their present and probable future traffic density, are especially useful.

Traffic density is the most important general factor in highway planning. It is the multiplier that determines the amount of vehicular operating savings resulting from road improvements; and, particularly with respect to low and intermediate types of road surface, it has a determining effect upon the life and maintenance cost of the surface. It also influences strongly the choice of surface width and others of the many decisions that must be made in the development of the highway plan.

It is a recognized principle of highway finance that the expenditure for road improvement should be kept within the earning capacity of the improvement. The return to the public upon its highway investment takes the form of reductions in the operating cost of vehicles resulting from the greater ease of traction over the improved grades and surfaces and the reduced wear and tear of vehicles consequent upon the road improvement. With increase in the movement of vehicles there is greater accumulation of individual savings and increase of the amount that may justifiably be expended to obtain further benefits.

The traffic data supplied by this survey and the estimates of future traffic density based upon them afford the needed safeguard against unwise overexpenditure by indicating the amount of the vehicular operating saving that may be expected from the improvement of each section of road during the next 10 years. But the more positive value to the highway designer lies in the usefulness of the data, when intelligently employed, in determining the character of improvement required immediately by each section of the highway system and the future alterations in the form of present improvements that will probably be required by changes in the density of traffic during the 10-year period covered by the estimates.

The area covered by the survey is economically youthful. Traffic upon many of its roads is in an early stage of development and, at its present density, requires and will yield a compensatory return upon only a minimum improvement of the road surface. As traffic increases a point will be reached at which, because of the wear and cost of maintaining the surface, it will become cheaper to replace the initial low-type surface with a surface of intermediate cost and resistance to traffic. At the same time the greater savings accumulated by the increased operation of vehicles will support the greater investment in the higher type of road improvement. There are numerous sections on which the traffic, as indicated by the survey, has already reached the density that suggests such an intermediate type of road improvement.

With further increase of traffic the roads now or subsequently to be improved with intermediate types of surface will require for maximum economy a still further improvement by addition of high-type pavements;

ON THE RIDGE ROUTE IN CALIFORNIA

and, again as the data of the survey show, there are already many sections that have reached this degree of utilization.

The traffic data given in this report supply the basis for all such decisions at the present time, and the estimates of future traffic permit the establishment of a reasonably definite program of construction for the 10-year period, which will take account of the needs for new construction, reconstruction, widening, etc., created by the probable traffic increase.

It is not possible in this report to indicate, even generally, the character of such construction programs. That is a matter which must be attended to for each State separately by the respective State highway departments, having in mind conditions other than traffic density peculiar to each State and the various included localities.

It is not possible to fix upon any precise density of traffic, uniformly acceptable under the varied conditions obtaining in the several States, as the density at which a substitution of an intermediate for a low type of surface or a high for an intermediate type will become profitable.

The proper time for change is indicated by increase of the true annual cost of the lower type of surface with increase of traffic to an amount exceeding the estimated annual cost under the same density of traffic for the higher, more resistant, and more expensive type of surface. But the annual costs of the various types of surface under various densities of traffic are affected both absolutely and relatively by the different conditions of the various parts of an area of such diverse conditions as the wide territory covered by this survey. Even within an individual State it may be impracticable to base highway design upon a single relation of traffic density and road type. Where, as in this case, there are 11 States and a range of natural conditions from mountain to plain, from arid to humid, from cold to hot, it is quite impossible to apply a uniform rule.

To illustrate, consider the traffic suitability of the gravel surface, a familiar and widely used low type. The annual cost of a gravel surface involves first the sum derived by dividing the difference between the cost of construction and the salvage value at the time of replacement by the time in years between construction and reconstruction. To this is added the annual interest on the capital invested and the annual cost of maintenance under the traffic to which the surface is actually subjected.

Obviously this annual cost will be affected by differences in the cost of the gravel and by differences in the character of the gravel which will cause the surface to wear more or less rapidly under traffic of various intensities and thus influence the life of the surface. The character of the subgrade upon which the surface is laid and the general climatic conditions obtaining will also have important bearing, as will several other variable conditions.

Similar variable conditions also affect the annual cost of the higher types of surface that may be considered for substitution in place of the gravel surface. So that it is impossible to fix upon any single density of traffic that may be uniformly used throughout such an area as the territory of this survey as the criterion of change from gravel to bituminous macadam or other higher type of surfacing.

For reasons such as this it is impossible to attempt in this report to establish the desirable highway program in all the 11 States. The current traffic data and the estimates of future density supplied constitute the principal basis of such programs; but the establishment of the programs is a task that must be left to the several State highway departments familiar with the present condition of the various highways and the various conditions, such as the cost and character of available road materials, and the effect of the existing climate and soils upon surfaces built of such materials.

Moreover, there will be special cases in which traffic density or tangible economy will not be controlling factors in determining the type of road improvement. Such cases may be expected to be rather more numerous in these Western States than in other more fully developed areas. In remote mountain and desert regions, for example, it is quite possible that the type of road improvement may be determined by such factors as the convenience, safety, comfort, and speed of traffic to a greater degree than by the more tangible factors of traffic density and cost.

In all cases, however, the tables and maps contained in this report, showing as they do the average daily density of traffic upon all sections of the Federal-aid highway system at the time of the survey and the estimated density after 5 and 10 years, respectively, will serve as a reliable guide in the establishment of the highway program. The characterization of the traffic as light, medium, and heavy according as its average daily density is less than 600, between 600 and 1,500, and over 1,500 vehicles, respectively, and the classification of the various road sections according to this denomination of their traffic at the three periods, represent efforts to reduce the data to a practically usable form. The limits assigned to the three classes of traffic, that is, 600 and 1,500 vehicles per day, are not to be construed as traffic densities indicative of the need of low, intermediate, or high type surfaces, although, in the general way possible under the circumstances, and modified as necessary by other known facts, the passage of a section of road from one to the other of the resulting classes may be accepted as an index of traffic growth critical in its bearing upon highway design.

The classification of "heavy traffic" is applied to those sections carrying an average traffic of 1,500 or more vehicles per day or where the traffic is close to this figure and there are more than 30 heavy trucks per day.

The classification of "intermediate traffic" applies to sections with an average traffic of 600 to 1,500 vehicles per day.

The classification of "light traffic" applies to sections with an average traffic of less than 600 vehicles per day.

Class A highways are those which carry heavy traffic in 1930; class B carry intermediate traffic in 1930 but will carry heavy traffic by 1935; class C carry intermediate traffic in 1930, will remain in this class in 1935 and will carry heavy traffic by 1940; class D carry intermediate traffic from 1930 through 1940; class E carry light traffic in 1930 and intermediate traffic in 1935 and 1940; class F carry light traffic in 1930 and 1935 and intermediate traffic in 1940; and class G carry light traffic from 1930 through 1940.

APPENDIX

TABLE 37.—*Motor-vehicle traffic in 1930 and forecast of future traffic at survey stations*[1]

ARIZONA

Station No.[1]	Route No.[2]	Direction from station[3]	Average daily density—1930[4]					Forecast		Maximum daily vehicles, 1930	Winter average, 1930
			Passenger cars	Trucks under 3 tons	Trucks, 3 tons and over	Busses	Total motor vehicles	1935	1940		
1E	U. S. 80 and 89	E. and W	1,704	154	27	19	1,904	2,639	3,225	2,402	1,952
1W	do	E. and W	2,831	276	47	31	3,185	4,416	5,390	3,781	3,186
2	do	W	764	62	8	13	847	1,168	1,425	1,277	846
	do	SE	615	52	8	11	686	945	1,155	826	670
	Ariz. 88	NE	149	14	1	2	166	230	280	430	185
3	U. S. 80 and 89	W	606	55	9	12	682	938	1,145	902	655
	do	S	239	16	6	7	268	365	446	420	272
	U. S. 180	E	554	68	5	9	636	878	1,070	821	578
4	do	E	4,077	331	20	28	4,456	6,199	7,570	5,177	4,421
	Ariz. 88	N	543	102	3	2	650	907	1,108	1,150	676
	U. S. 180	W	4,144	341	20	27	4,532	6,307	7,700	5,151	4,505
	do	E	542	42	5	6	595	825	1,008	754	552
5	do	W	625	47	5	6	683	948	1,157	894	643
	C. R	S	110	9	1	(x)	121	168	205	208	122
6	U. S. 180	E. and W	642	74	5	8	729	1,009	1,232	978	689
	Ariz. 87	N	496	58	9	3	566	788	963	773	574
7	do	SE	257	41	7	(x)	306	427	522	368	297
	Ariz 187	SW	278	27	5	2	312	434	530	477	332
	C. R	W	74	22			96	134	164	139	93
8	Ariz. 87	N. and S	989	119	27	4	1,139	1,589	1,940	1,339	1,154
	do	N	1,062	133	23	5	1,223	1,705	2,080	1,566	1,270
9	do	S	1,221	152	26	6	1,405	1,959	2,310	1,845	1,442
	C. R	W	706	120	20	2	848	1,184	1,447	1,136	882
10	U. S. 89	NW. and SE	3,383	384	32	20	3,819	5,319	6,500	4,245	3,834
11	U. S. 80	E. and W	1,700	221	45	9	1,975	2,752	3,360	2,636	1,913
	U. S. 80 and 89	SE	4,210	350	41	36	4,637	6,441	7,860	5,876	4,600
12	C. R	W	672	84	10	4	770	1,072	1,310	903	784
	U. S. 80 and 89	NW	3,514	272	32	31	3,849	5,345	6,525	4,866	3,807
13E	U. S. 80	E. and W	473	32	10	4	519	721	880	1,183	399
13S	U. S. 89	N. and S	858	42	14	5	919	1,280	1,563	1,572	970
14	do	N. and S	218	14	4	5	241	330	403	375	223
	Ariz. 82	N. E	119	11		3	133	182	220	221	122
15	do	SW	132	10		3	145	199	243	352	118
	Ariz. 83	N	90	8		(x)	99	137	168	273	78
	U. S. 80	SE	354	17	7	4	382	529	646	509	379
16	do	NW	393	19	9	4	425	589	720	558	412
	Ariz. 83	S	56	6		(x)	63	87	106	112	61
	U. S. 80	SE	250	14	1	7	272	371	453	453	265
17	do	NW	178	11	1	5	195	266	325	262	177
	Ariz. 82	W	81	6		3	90	122	149	156	97
18W	U. S. 80	NW. and SE	464	17	5	9	495	680	832	803	486
18E	do	E. and W	965	84	22	13	1,084	1,499	1,832	1,945	1,163
	Ariz. 81	N	281	23	2	1	307	428	523	369	281
19	U. S. 80	W	1,474	60	5	10	1,549	2,155	2,630	1,815	1,350
	do	E	1,560	72	6	10	1,648	2,293	2,800	2,012	1,406
20	do	NE and SW	262	20	4	4	290	400	489	499	258
21	do	NE and SW	125	12	2	3	142	195	238	245	109
	U. S. 180	N	340	19	1	6	366	504	615	485	339
22	C. R	E	58	9		2	69	94	115	105	64
	U. S. 180	S	277	16	1	4	298	412	503	405	278
	do	SE	280	15	1	4	300	414	506	331	267
23	do	W	310	21	1	5	337	465	567	400	308
	Ariz. 71	NE	60	6		(x)	67	92	113	140	75
24	U. S. 180	E. and W	826	62	4	7	899	1,249	1,525	1,375	689
25W	do	E. and W	540	54	2	9	605	834	1,020	805	557
25E	do	E. and W	826	61	2	8	897	1,245	1,520	1,228	755
	do	N	356	16	4	6	382	526	643	687	314
26	Indian Road	W	20	2			22	510	622	31	19
	U. S. 180	S	344	16	4	6	370	510	622	722	302
27	Ariz. 73	SW and NE	80	11		(x)	92	127	156	153	81
	U. S. 80 and 89	N	254	22	6	6	288	395	482	362	282
28	do	S	379	37	10	6	432	596	728	484	413
	C. R	W	141	20	6	(x)	168	234	286	196	155
	U. S. 80 and 89	N	652	50	20	10	732	1,011	1,235	1,021	681
29	do	SE	334	21	9	8	372	510	622	628	348
	C. R	SW	386	33	13	2	434	605	740	516	386
	U. S. 80	E	618	46	18	8	690	955	1,165	1,023	619
30	do	SW	572	36	18	8	634	876	1,075	894	569
	C. R	NW	68	11	1		80	112	137	153	83
31	U. S. 80	E. and W	516	20	20	7	563	778	950	906	455
32	do	E. and W	2,350	96	57	19	2,522	3,504	4,280	4,199	2,539
	C. R	N	26	4			30	42	51	53	19
33	U. S. 80	W	686	25	21	9	741	1,025	1,250	836	696
	do	E	660	23	20	9	712	984	1,202	805	670
	do	NE	563	38	18	8	627	867	1,058	805	530
34	do	W	687	44	18	8	757	1,049	1,280	858	717
	Ariz. 84	E	144	6			150	210	257	250	199
	do	NW	338	15	7	(x)	361	504	616	618	392
35	U. S. 80 and 89	N	14	1	1		16	22	27	21	15
	do	SE	341	16	8	(x)	366	511	624	596	402
36N	Ariz. —	N. and S	888	85	23	8	1,004	1,394	1,703	1,163	972
36W	U. S. 80 and 89	E. and W	475	38	10	(x)	524	732	895	881	509

[1] For locations of stations see Figure 2.

[2] The United States routes are designated by the initials U. S., State routes by the State names followed by the number, county roads by C. R., and forest highways by F. H.

[3] Direction of route from station.

[4] Less than 1 vehicle per day is indicated by (x).

TABLE 37.—*Motor-vehicle traffic in 1930 and forecast of future traffic at survey stations*—Continued

ARIZONA—Continued

Station No.	Route No.	Direction from station	Average daily density—1930					Forecast		Maximum daily vehicles, 1930	Winter average, 1930
			Passenger cars	Trucks under 3 tons	Trucks 3 tons and over	Busses	Total motor vehicles	1935	1940		
37	U. S. 89	N	434	21		1	456	637	778	1,177	391
	do	S	671	37	1	5	714	993	1,212	1,545	630
	Ariz. 79	E	243	18		4	265	365	446	430	244
38	U. S. 89 and F. H. 8	N. and S	399	27	3	2	431	600	733	651	367
39	U. S. 89	N	317	21	3	1	342	477	583	654	265
	C. R	NW	31	10		(x)	42	57	70	50	46
	U. S. 89	S	332	25	3	1	361	504	615	687	296
	do	NW	531	39	7	2	579	808	985	781	598
40	do	SE	608	52	8	2	670	935	1,140	973	683
	C. R	W	112	16		(x)	129	179	219	214	137
41	U. S. 89	NW. and SE	491	35	7	2	535	746	912	684	561
	do	N	330	19	3	2	354	493	603	513	284
42	do	S	369	25	3	2	399	556	678	559	340
	C. R	W	40	7			47	66	80	59	49
	U. S. 89	S	1,116	64	1	8	1,189	1,653	2,020	1,998	1,104
43	do	N	898	68	1	6	973	1,354	1,654	1,505	893
	C. R	E	240	17		2	259	360	439	490	258
	Ariz. 79	E	536	29	3	4	572	795	970	1,748	569
44	do	N	640	45	5	4	694	966	1,652	2,023	703
	C. R	S	165	17	2		184	258	315	361	140
	Ariz. 79	W	244	19	1	4	268	370	451	481	259
45	do	E	272	20	2	2	296	412	503	559	294
	C. R	S	36	4		(x)	41	56	68	125	38
	U. S. 66	E	324	9	3	5	341	480	590	570	301
46E	do	W	340	10	4	5	359	506	623	600	318
	C. R	S	18	4			22	31	39	25	24
46W	U. S. 66	E. and W	358	12	4	5	379	535	657	596	347
	do	E	322	11	2	5	340	479	590	421	326
47	do	W	298	10	2	5	315	443	545	469	302
	C. R	S	26	2			28	40	49	33	24
	U. S. 66	NE	304	9		6	319	448	552	419	307
48	C. R	SE	14	2			16	23	28	21	14
	U. S. 66	W	308	8		6	322	452	556	401	307
	do	E	416	10	1	6	433	611	752	593	382
49	do	W	505	15	2	6	528	746	917	743	493
	C. R	SE	92	5	1		98	140	172	180	102
	do	NE	24	1			25	36	44	40	22
	U. S. 66 and 89	E	432	19	3	5	459	649	798	691	373
50	U. S. 66	W	472	22	4	5	503	712	875	874	439
	U. S. 89	S	178	14	2	(x)	195	277	338	301	152
	U. S. 66	E	502	22	6	5	535	758	932	1,380	568
51	U. S. 66 and 89	W	592	37	6	6	641	908	1,117	1,584	674
	U. S. 89	N	78	18			96	137	169	247	110
52	U. S. 66	E. and W	496	22	1	8	527	742	913	1,042	495
	do	E	280	16		7	303	423	520	529	275
53	do	W	276	17		7	300	419	515	513	271
	C. R	S	12	1			13	19	23	18	9
54	U. S. 66	E. and W	352	18		5	375	529	650	500	316
55	U. S. 70	N. and E	133	13	1	(x)	148	210	258	205	108
56E	do	E. and W	114	16			130	186	229	184	116
56W	do	E. and NW	123	16		(x)	140	199	245	190	104
	Ariz. 73	S	82	11			93	133	164	203	81
57	do	NE	178	24			202	289	356	376	186
	C. R	NW	130	15			145	207	255	300	120
	U. S. 70	E	198	27	1	3	229	323	398	422	214
58	do	N	300	41	1	3	345	489	602	574	324
	C. R	S	112	18		(x)	131	186	229	176	120
	U. S. 66	E	617	35	2	5	659	935	1,150	1,217	560
59	do	W	524	26	2	5	557	789	970	940	500
	C. R	S	85	9			94	134	165	187	79
	U. S. 66 and 89	W	740	24	6	7	777	1,101	1,355	980	628
60	do	E	588	16	4	5	613	869	1,070	781	493
	F. H. 2	N	192	9	2	1	204	290	357	376	144
61	U. S. 91	NE. and SW	171	18	1	3	193	272	334	310	146
	Ariz. —	S	376	26	15	9	426	584	713	712	385
62	Ariz. —	NW	268	21	9	7	305	417	510	373	269
	C. R	E	178	15		2	195	270	330	394	214
	Ariz. 82	E	262	16	3	3	284	393	481	427	258
63	do	W	293	33	6	3	335	465	568	502	311
	C. R	S	53	19	4		76	106	130	100	73
64	Ariz. 81	N. and S	157	28		3	188	259	315	298	193
	do	N	58	7		3	68	91	111	118	67
65	C. R	E	180	13		(x)	194	270	330	304	160
	Ariz. 81	SW	203	16		3	222	307	374	339	188
	C. R	N	90	15	1	1	107	148	181	171	105
66	do	SE	69	13		1	83	115	140	147	64
	do	W	138	31	1	2	172	238	291	283	159
	do	E	51	27	1		79	111	135	124	90
67	do	N	147	29	2		178	249	304	314	171
	do	S	127	14	1		142	199	243	223	139
	Ariz. 71	N	376	91	2	2	471	657	802	778	576
68	do	SW	162	31		2	195	270	330	294	226
	C. R	SE	243	65	2		310	434	530	581	378
69	Ariz. 71	N. and S	116	24	1		141	197	241	342	189
	do	N	22	9			31	43	53	48	15
70	do	S	26	8			34	48	58	45	24
	C. R	W	11	6			17	24	29	22	13
	Ariz. 73	S	35	9			44	62	75	86	35
71	do	N	40	4			44	62	75	112	45
	Indian Road	E	25	5			30	42	51	74	29
72	Ariz. 74	E. and W	56	7			63	88	107	98	83
	do	W	104	21			125	175	214	142	147
73	do	E	120	24			144	202	246	217	176
	C. R	S	26	5			31	43	53	60	37
	U. S. 89	N	40	14		(x)	55	77	95	83	20
74	F. H. 1	S	33	13		2	48	66	81	74	11
	U. S. 89	E	20	8			28	40	49	50	11
75	do	N. and S	40	16			56	80	98	102	48
	Ariz. 79	N	339	96		2	437	622	765	1,001	319
76	do	SW	152	58			210	300	370	443	161
	C. R	SE	203	51		(x)	255	363	447	664	194

TABLE 37.—*Motor-vehicle traffic in 1930 and forecast of future traffic at survey stations*—Continued

ARIZONA—Continued

Station No.	Route No.	Direction from station	Average daily density—1930					Forecast		Maximum daily vehicles, 1930	Winter average, 1930
			Passenger cars	Trucks under 3 tons	Trucks 3 tons and over	Busses	Total motor vehicles	1935	1940		
77	Ariz. 88	NW	162	19	1	1	183	255	311	356	201
	C. R.	NE	32	11			43	60	74	102	30
	Ariz. 88	SE	179	21	1	1	202	281	344	412	213
	C. R.	N	144	14		3	161	221	270	306	191
78	Ariz. 88	SE	181	13	1	2	197	273	333	378	234
	do	SW	156	7	1	2	166	230	280	315	193
79	Ariz. 81	N. and S	202	42		3	247	342	417	306	258
80	C. R.	N. and S	174	21		4	199	273	333	329	226
	do	E	43	5			48	67	82	85	39
81	do	W	8				8	11	14	29	11
	do	N	44	5			49	69	84	97	41
82	do	N. and S	77	13		3	93	126	154	193	88

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1	U. S. 101	N	12,732	821	151	151	13,855	17,527	20,460	31,032	13,065
	C. R.	SE	2,079	286	52	(x)	2,418	3,091	3,609	4,817	2,352
	U. S. 101	S	10,831	558	102	152	11,643	14,697	17,156	27,672	10,799
2	do	N	10,650	564	116	154	11,484	14,491	16,916	23,553	10,914
	C. R.	E	1,860	240	49	(x)	2,150	2,749	3,208	2,565	1,946
	U. S. 101	S	11,846	668	138	149	12,801	16,182	18,889	24,423	11,817
	C. R.	E	1,854	261	15	51	2,181	2,724	3,180	2,838	1,935
	do	W	1,470	183	15	15	1,683	2,133	2,490	3,662	1,342
3	U. S. 101	N	6,710	619	155	94	7,578	9,572	11,174	14,079	6,431
	Old Calif. 2	S	372	84	10	6	472	596	696	622	388
	U. S. 101	SW	5,958	512	128	79	6,677	8,439	9,851	11,024	5,935
4	do	N. and S	20,068	1,979	293	147	22,487	28,573	33,354	26,338	21,117
5	Calif. 5	N. and S	7,334	793	109	54	8,290	10,534	12,296	11,529	7,632
6	U. S. 101	N. and S	5,995	530	314	35	6,874	8,747	10,211	10,169	6,141
	U. S. 101E	N	4,880	408	110	47	5,445	6,904	8,059	12,536	4,699
7A	do	S	4,438	364	98	47	4,947	6,267	7,316	11,076	4,271
	C. R.	W	638	100	10	(x)	749	957	1,117	1,706	608
	U. S. 48	SW	1,468	169	105	17	1,759	1,742	2,601	2,844	1,559
8	do	NE	5,302	415	257	35	6,009	7,641	8,919	12,515	5,264
	Calif. 5	NW	3,930	254	158	18	4,360	5,553	6,482	9,783	3,879
	U. S. 101E	N	3,152	344	100	36	3,632	4,599	5,369	7,694	2,742
9	do	S	3,074	332	97	36	3,539	4,480	5,230	7,507	2,629
	C. R.	W	138	28	2		168	215	251	257	135
	U. S. 40	N	7,224	438	96	57	7,815	9,922	11,583	13,594	7,234
10	do	S	6,384	380	84	35	6,883	8,759	10,224	12,776	6,071
	C. R.	W	1,914	169	37	37	2,157	2,711	3,165	2,794	2,059
	U. S. 101	N	2,774	211	75	32	3,092	3,914	4,569	7,754	2,406
11	Calif. 8	E	1,062	56	20	10	1,148	1,456	1,699	3,378	963
	U. S. 101	S	3,656	257	91	41	4,045	5,121	5,978	10,294	3,177
	do	N	4,208	304	68	38	4,618	5,858	6,838	10,795	3,766
12	Calif. 52	E	728	92	10	3	833	1,062	1,239	2,941	636
	U. S. 101	S	4,372	314	70	39	4,795	6,683	7,101	12,515	3,931
13	do	E. and W	16,264	1,008	360	173	17,805	23,239	27,524	20,469	18,884
	do	W	13,848	818	364	125	15,155	19,809	23,462	19,605	14,601
14	Hadley St.	N	3,496	198	86	3	3,783	4,982	5,901	4,563	3,884
	U. S. 101	E	10,734	669	291	119	11,813	15,413	18,254	16,508	11,642
15	do	NE. and W	9,452	500	220	88	10,260	13,407	15,878	16,038	9,473
16	U. S. 66 and 99	E. and W	5,024	342	127	54	5,547	7,240	8,575	9,693	5,152
17	do	E. and W	7,280	346	102	19	7,747	10,186	12,063	14,704	7,750
	U. S. 66	E	8,009	370	100	23	8,502	11,175	13,236	13,288	7,964
18	do	W	5,460	253	100	4	5,817	7,662	9,074	8,310	5,623
	C. R.	S	3,508	208	50	21	3,787	4,964	5,879	5,729	3,694
19	Calif. 9	E and W	3,800	220	100	33	4,153	5,430	6,431	10,163	3,599
	Calif. 23	E	2,126	207	125	11	2,469	3,240	3,837	7,996	2,035
20	U. S. 99	W	2,777	280	150	24	3,231	4,227	5,006	6,095	3,208
	U. S. 99E	S	2,671	346	135	19	3,171	4,154	4,920	7,181	2,677
	U. S. 99W	S	3,030	158	62	(x)	3,251	4,284	5,073	5,731	2,978
21	U. S. 101	E. and W	4,960	363	159	26	5,508	7,225	8,557	10,308	4,932
22	do	E. and W	6,396	487	173	32	7,088	9,300	11,014	10,141	6,393
	do	W	5,500	407	179	25	6,111	8,021	9,500	10,057	5,653
23	C. R.	N	972	210	10	7	1,199	1,571	1,861	1,779	1,160
	Calif. 60	S	4,370	522	100	29	5,021	6,579	7,793	7,151	4,934
	U. S. 101	E	2,672	167	100	9	2,948	3,874	4,588	4,799	2,895
24	do	E. and W	5,472	350	140	47	6,009	7,858	9,307	12,008	5,356
101	U. S. 99W	N. and S	1,030	85	35	12	1,162	1,443	1,670	1,721	1,180
102	Calif. 15	E. and W	522	56	10	1	589	738	854	1,068	618
103	do	E. and W	292	59	15	(x)	367	459	531	504	331
104	U. S. 99W	N. and S	1,188	130	40	12	1,370	1,704	1,972	1,915	1,496
105	do	N. and S	1,258	81	29	15	1,383	1,717	1,986	2,259	1,413
	Calif. 47	W	598	73	12	3	686	857	992	972	670
106	C. R.	N	35	4	1		40	50	58	69	40
	Calif. 47	E	636	72	12	3	723	904	1,045	1,056	744
	C. R.	S	89	7	1		97	122	141	141	99
	U. S. 99E	S	1,188	108	20	4	1,320	1,652	1,911	1,822	1,233
107	C. R.	E	810	119	5	3	937	1,172	1,356	1,498	892
	U. S. 99E	N	1,934	218	26	4	2,182	2,733	3,162	3,122	2,111
	do	S	830	82	10	3	925	1,157	1,339	1,248	912
108	Calif. 29	E	284	40	3	4	331	410	475	552	281
	U. S. 99E	N	1,073	115	13	6	1,207	1,507	1,744	1,653	1,202
109	U. S. 99W	N. and S	1,115	85	10	24	1,234	1,519	1,757	1,998	1,108
	U. S. 99	S	1,496	158	21	15	1,690	2,102	2,432	2,158	1,565
110	Calif. 28	E	515	102	10	3	630	787	910	792	676
	U. S. 99	N	1,948	253	33	15	2,249	2,804	3,244	2,628	2,246
111	Calif. 20	E. and W	233	42	8	1	284	355	411	447	282
112	U. S. 99	N. and S	714	42	6	10	772	956	1,106	1,408	638
113	do	N. and S	1,775	129	8	10	1,922	2,400	2,776	2,846	1,862
114	do	N. and S	748	69	7	10	834	1,034	1,196	1,322	687
	do	S	708	45	8	10	771	955	1,105	1,519	618
115	Calif. 46	W	112	18	2		132	166	192	257	151
	U. S. 99	N	719	45	8	10	782	969	1,121	1,512	632
117	U. S. 199	N. and S	314	17	5	5	341	430	502	576	180
118	U. S. 101	N. and S	512	81	20	6	619	784	915	937	607

TABLE 37.—*Motor-vehicle traffic in 1930 and forecast of future traffic at survey stations*—Continued

CALIFORNIA—Continued

Station No.	Route No.	Direction from station	Average daily density—1930					Forecast		Maximum daily vehicles, 1930	Winter average, 1930
			Passenger cars	Trucks under 3 tons	Trucks 3 tons and over	Busses	Total motor vehicles	1935	1940		
	U. S. 199	E	474	55	5	5	539	683	797	1,388	371
119	U. S. 101	N	854	102	20	9	985	1,248	1,457	2,467	721
	do	S	584	73	15	5	677	859	1,003	1,567	437
	do	N	430	29	5	4	468	593	693	926	254
120	C. R	E	32	6		1	39	49	57	59	29
	U. S. 101	S	443	34	5	5	487	616	720	948	265
	do	N	1,342	97	15	9	1,463	1,860	2,171	4,009	1,350
121	Calif. 20	E	440	63	5	6	514	650	758	948	567
	U. S. 101	S	1,660	146	20	15	1,841	2,335	2,726	4,113	1,729
122	do	N. and S	2,431	187	30	15	2,663	3,387	3,953	5,118	2,429
	do	N	476	32	9	4	521	661	772	771	318
123	C. R	W	68	8	1		77	98	115	125	58
	U. S. 101	S	514	34	10	4	562	714	833	785	382
	do	N	937	92	8	4	1,041	1,326	1,548	1,608	901
124	Calif. 15	E	444	89	4	7	544	687	802	952	532
	U. S. 101	S	1,276	162	10	8	1,456	1,852	2,162	2,005	1,316
125	Calif. 47	E. and W	756	60	10	5	831	1,037	1,199	1,199	846
126	Calif. 45	E. and W	656	105	10	2	773	968	1,119	965	800
	U. S. 40	S	321	26	7	(x)	355	453	529	930	372
201A	do	E	2,826	150	43	7	3,026	3,861	4,507	5,719	2,776
	New Calif. 8	W	2,596	136	39	6	2,777	3,544	4,137	5,083	2,559
	U. S. 40	S	484	43	13	7	547	691	806	1,142	586
201B	Old Calif. 7	E	412	46	14	20	492	604	705	842	463
	Old Calif. 8	W	277	28	8	17	330	400	467	580	322
	U. S. 99	N	2,234	250	83	5	2,572	3,283	3,833	4,337	2,670
202	Calif. 24	E	1,108	192	20	1	1,321	1,688	1,971	2,096	1,327
	U. S. 99	S	2,868	303	101	5	3,277	4,185	4,885	5,259	3,233
	C. R	W	723	133	5	2	863	1,101	1,285	1,951	763
203	U. S. 99	N	2,128	190	40	8	2,366	3,016	3,520	3,537	2,792
	do	N	2,028	152	50	17	2,247	2,852	3,329	4,132	2,089
204	Calif. 34	E	334	57	5	6	402	506	591	2,157	520
	U. S. 99	S	2,088	176	50	17	2,331	2,960	3,455	4,203	2,181
	C. R	W	78	26	2		106	136	158	123	98
205	U. S. 99	S	4,094	397	89	19	4,599	5,858	6,838	7,985	4,417
206	U. S. 40 and 99	W	4,290	393	115	40	4,838	6,137	7,163	9,815	4,857
207	U. S. 40 and 99E	S	12,274	1,247	331	137	13,989	17,717	20,681	18,504	12,715
	C. R	W	1,306	209	55	7	1,577	2,008	2,344	2,301	1,395
	U. S. 40 and 99E	N	10,879	1,071	285	128	12,363	15,649	18,267	16,622	11,202
208	do	S	4,014	270	110	34	4,428	5,620	6,710	6,510	4,387
209	U. S. 99E	N	1,230	108	30	13	1,381	1,717	1,986	1,785	1,302
210	U. S. 40	E. and W	2,342	225	45	11	2,623	3,278	3,793	4,070	2,257
211	Calif. 17	N	1,338	235	45	11	1,629	2,031	2,349	2,245	1,636
	U. S. 40	W	2,054	224	40	16	2,334	2,909	3,366	4,267	2,024
212	do	E	1,423	159	24	7	1,613	2,016	2,332	3,077	1,512
	do	E	556	49	5	3	613	766	886	2,149	390
213	C. R	W	132	42	2		176	221	256	317	170
	U. S. 40	S	635	83	5	3	726	907	1,050	2,334	497
	do	E	368	39	5	4	416	517	598	1,048	319
214	Calif. 15	W	26	7	1	(x)	35	43	49	91	34
	U. S. 40	S	386	45	5	4	440	547	633	1,112	332
214A	U. S. 50	NE. and SW	984	109	10	18	1,121	1,384	1,602	1,839	1,053
	U. S. 99E	S	1,351	174	40	10	1,575	1,964	2,272	2,282	1,399
215	C. R	E	709	126	10	1	846	1,060	1,227	1,243	745
	U. S. 99E	N	2,348	336	60	13	2,757	3,444	3,984	4,039	2,288
	C. R	W	586	89	5	1	681	853	987	1,193	501
	U. S. 99E	S	886	110	20	3	1,019	1,275	1,475	1,577	855
216	Calif. 21	E	370	62	10	2	444	555	642	535	382
	U. S. 99E	W	770	99	15	2	886	1,109	1,284	1,459	770
	C. R	N	48	13	1		62	78	90	87	67
	U. S. 99E	S	3,558	418	70	2	4,048	5,078	5,875	5,715	3,288
217	Calif. 15	W	1,876	255	25		2,156	2,706	3,131	3,138	1,771
	U. S. 99E	N	2,373	303	51	1	2,728	3,422	3,960	3,753	2,379
	C. R	SW	182	26	4		212	266	308	327	177
	U. S. 40	W	2,760	212	66	33	3,071	3,886	4,536	4,975	2,525
218	U. S. 40 and 99W	E	3,334	291	91	38	3,754	4,753	5,548	5,713	3,158
	U. S. 99W	N	1,883	196	40	14	2,133	2,710	3,164	3,251	2,038
	Calif. 8	N	2,677	216	40	36	2,969	3,751	4,379	6,863	1,965
219	C. R	S	4,262	237	40	49	4,588	5,805	6,777	9,107	3,486
	Calif. 8	E	2,656	189	35	32	2,912	3,684	4,300	5,237	2,195
220	Calif. 51	E	2,128	214	20	12	2,374	3,021	3,526	4,892	2,035
221	U. S. 101	S	2,361	257	64	6	2,688	3,430	4,004	4,933	1,935
	C. R	W	782	146	20	5	953	1,212	1,415	1,481	703
	U. S. 101	N	1,085	139	30	5	1,259	1,604	1,872	2,531	943
222	Calif. 16	E	420	106	10	2	538	686	800	975	488
	U. S. 101	S	873	123	20	3	1,019	1,299	1,517	2,437	669
	do	N	698	50	15	3	766	976	1,139	1,127	518
223	Calif. 48	W	142	32	4	3	181	228	266	347	166
	U. S. 101	S	784	69	21	6	880	1,118	1,305	1,337	616
	do	N	1,906	208	62	26	2,202	2,783	3,249	3,839	1,799
224	C. R	W	981	178	10	(x)	1,170	1,495	1,745	2,535	831
	U. S. 101	S	2,780	284	84	28	3,176	4,026	4,700	5,840	2,449
301	U. S. 99	N. and S	4,398	378	145	47	4,968	6,294	7,347	8,473	5,205
	do	N	3,624	325	107	27	4,083	5,090	5,889	7,178	3,714
302	do	S	4,106	410	134	27	4,677	5,836	6,752	6,037	4,789
	C. R	E	584	84	10	(x)	679	851	984	1,066	641
	Calif. 18	W	1,190	131	7	8	1,336	1,667	1,928	2,095	1,137
303	C. R	S	80	17	1		98	123	142	237	77
	Calif. 18	E	1,165	126	7	8	1,306	1,629	1,885	2,109	1,075
	U. S. 99	S	2,440	204	112	19	2,775	3,459	4,002	4,430	2,339
304	Calif. 32	W	686	98	20	1	805	1,009	1,167	1,357	839
	U. S. 99	N	1,958	166	90	18	2,232	2,778	3,215	3,012	2,065
	do	S	5,199	518	116	24	5,857	7,320	8,470	8,862	5,948
305	Olive St	E	1,300	98	5	(x)	1,404	1,761	2,037	2,292	1,333
	U. S. 99	N	5,248	526	118	53	5,945	7,394	8,555	8,587	5,667
	Olive St	W	858	40	2	2	902	1,130	1,307	1,545	884
	U. S. 99	N	8,666	859	130	57	9,712	12,117	14,019	15,203	9,421
306	do	S	8,594	888	135	56	9,673	12,069	13,964	15,221	9,357
	Church Ave	E	918	126	10	1	1,055	1,323	1,530	1,495	1,083

TABLE 37.—*Motor-vehicle traffic in 1930 and forecast of future traffic at survey stations*—Continued

CALIFORNIA—Continued

Station No.	Route No.	Direction from station	Average daily density—1930					Forecast		Maximum daily vehicles, 1930	Winter average, 1930
			Passenger cars	Trucks under 3 tons	Trucks 3 tons and over	Busses	Total motor vehicles	1935	1940		
307	U. S. 99	S	2,577	261	99	20	2,957	3,686	4,265	4,867	3,194
	Calif. 10	E	1,436	180	50	18	1,684	2,091	2,419	2,764	1,584
	do	W	1,064	152	30	14	1,260	1,564	1,809	1,934	1,203
	U. S. 99	N	2,652	269	101	25	3,047	3,793	4,388	4,741	3,159
308	Calif. 10	W	2,030	193	47	10	2,280	2,849	3,296	3,097	2,210
	C. R	S	970	113	5	9	1,097	1,365	1,580	1,565	928
	Calif. 10	E	1,208	117	29	1	1,355	1,699	1,966	1,940	1,425
309	U. S. 99	N. and S	3,419	253	138	38	3,848	4,781	5,532	5,303	3,817
	do	S	2,768	213	125	20	3,126	3,898	4,510	4,340	2,789
310	Calif. 33	W	526	77	5	2	610	763	883	818	613
	U. S. 99	N	2,703	206	120	19	3,048	3,801	4,398	4,312	2,710
311	Calif. 33	E. and W	916	117	35	22	1,090	1,366	1,595	1,626	1,005
312	U. S. 101	N. and S	2,026	77	25	30	2,158	2,722	3,177	4,058	1,963
	do	N	1,526	56	24	16	1,622	2,054	2,398	2,914	1,230
313	Calif. 10	E	157	27	3		187	239	279	284	171
	C. R	W	90	15	1		106	136	158	114	99
	U. S. 101	S	1,516	53	23	16	1,608	2,036	2,377	2,796	1,298
314	do	N. and S	4,164	366	100	44	4,674	5,922	6,913	6,822	3,955
	do	N	2,846	223	89	31	3,189	4,039	4,715	5,642	2,740
315	Calif. 22	E	1,210	145	58	12	1,425	1,807	2,110	1,772	1,428
	U. S. 101	S	2,233	164	66	22	2,485	3,150	3,677	2,978	2,437
	do	N	3,050	180	68	26	3,324	4,218	4,924	5,232	3,083
316	Calif. 67	W	1,430	142	54	10	1,636	2,080	2,428	3,267	1,674
	U. S. 101	S	2,767	169	64	26	3,026	3,837	4,479	4,906	2,758
	do	N	6,120	557	161	34	6,872	8,746	10,209	8,869	6,330
317	C. R	W	843	87	5	1	936	1,196	1,396	1,458	951
	U. S. 101	S	6,222	562	162	35	6,981	8,884	10,370	9,157	6,475
	Calif. 22	S	220	38	10	2	270	343	400	316	279
318	Calif. 32	W	620	67	24	5	716	909	1,062	903	691
	do	E	482	42	15	3	542	689	805	914	483
	U. S. 99	N	7,621	787	300	23	8,731	11,138	13,001	10,906	8,094
319	C. R	W	2,073	396	10	2	2,481	3,171	3,701	2,712	2,482
	U. S. 99	S	5,678	511	200	21	6,410	8,172	9,539	8,580	5,841
	do	N	3,824	339	148	34	4,345	5,514	6,436	8,316	3,695
320	Calif. 13	E	368	51	5		424	542	633	522	388
	U. S. 99	S	3,928	348	152	35	4,463	5,663	6,611	8,463	3,817
	U. S. 99W	E	2,422	248	75	32	2,777	3,511	4,098	4,356	2,234
321	do	W	2,100	239	50	19	2,408	3,056	3,567	3,966	2,021
	Durham Road	N	332	47	5	13	397	491	573	615	391
	C. R	S	156	30	2		188	240	281	292	187
	U. S. 99W	N	3,466	401	75	20	3,962	5,042	5,885	5,491	3,637
322	do	S	2,719	277	75	21	3,092	3,928	4,585	4,527	2,955
	C. R	W	1,265	185	25		1,475	1,887	2,202	1,864	1,575
	U. S. 99E	N	2,494	232	66	6	2,798	3,571	4,168	3,937	2,423
323	C. R	E	327	43	5	1	376	480	560	443	348
	U. S. 99E	S	2,306	210	60	5	2,581	3,295	3,846	3,431	2,374
	U. S. 99W	N	3,072	254	59	30	3,415	4,329	5,054	6,701	3,699
324	do	E	2,006	220	52	17	2,295	2,914	3,401	4,761	1,927
	U. S. 48	S	3,494	311	73	31	3,909	4,960	5,790	8,374	2,530
	U. S. 99W	E	2,106	182	40	17	2,345	2,978	3,476	5,068	2,103
325	do	W	2,069	174	40	17	2,300	2,920	3,409	4,915	2,072
	C. R	N	72	10	1		83	106	124	116	85
	U. S. 101	N	2,294	224	56	60	2,634	3,393	4,018	4,945	2,383
401	Calif. 60	W	2,860	106	26	14	3,006	3,943	4,671	6,262	2,827
	U. S. 101	S	4,014	266	66	38	4,384	5,728	6,784	9,017	4,071
402	do	N. and S	3,616	247	61	34	3,958	5,172	6,125	10,830	3,273
403	U. S. 80	E. and W	6,730	454	100	28	7,312	9,600	11,370	11,132	6,899
404	do	E. and W	2,718	344	100	31	3,193	4,168	4,936	6,055	3,089
	do	E	690	78	13	6	787	1,029	1,219	1,522	722
405	do	W	639	57	9	7	712	929	1,101	1,209	611
	C. R	S	130	15	1		146	192	228	446	149
	U. S. 80	W	2,208	331	75	9	2,623	3,445	4,080	3,122	2,283
406	U. S. 99	N	3,543	478	100	19	4,140	5,172	6,433	5,702	3,879
	El Centro Road	E	1,898	424	100	(x)	2,423	3,192	3,781	3,017	2,017
	U. S. 80	S	3,960	388	100	25	4,473	5,862	6,943	5,680	4,134
	U. S. 99	S	1,102	178	100	12	1,392	1,732	2,004	1,953	1,374
407	C. R	E	226	56	5	6	293	360	417	545	380
	U. S. 99	N	1,337	216	100	12	1,665	2,075	2,400	2,177	1,765
	C. R	W	175	31	2	7	215	261	302	298	218
408	U. S. 99	N. and S	2,508	347	100	15	2,970	3,709	4,291	10,663	2,704
	U. S. 66	N	914	67	19	16	1,016	1,255	1,452	1,735	944
409	do	S	889	61	18	16	984	1,215	1,406	1,697	912
	C. R	W	38	10			48	60	70	63	46
	U. S. 91	N	190	18	4	7	219	266	308	445	273
410	U. S. 66	W	464	37	9	12	522	640	741	601	501
	do	E	316	22	6	5	349	432	499	519	269
	C. R	N	258	31	5	3	297	369	427	640	321
411N	Calif. 23	NE	388	29	10	3	430	536	620	1,472	362
	do	S	639	52	20	6	717	892	1,032	2,066	644
	do	N	623	52	20	8	703	872	1,009	1,881	636
411S	Calif. 58	E	100	12	2	(x)	115	143	166	153	113
	Calif. 23	S	586	48	20	9	663	821	950	1,761	647
	do	N	187	33	5	2	227	282	327	371	187
412	Calif. 57	W	37	10	1		48	60	70	74	40
	Calif. 23	S	166	24	5	2	197	245	283	366	150
	do	N	769	94	20	9	892	1,164	1,378	1,834	935
413	do	S	1,208	147	40	10	1,405	1,839	2,178	3,028	1,260
	Calif. 59	W	388	63	10	(x)	462	608	720	688	416
	C. R	E	419	62	10	(x)	492	647	766	724	425
	U. S. 99	N	2,191	135	76	16	2,418	3,166	3,750	5,300	2,134
414	do	S	2,114	131	73	17	2,335	3,055	3,618	5,275	2,012
	Calif. 59	E	157	12	3		172	227	268	855	147
	U. S. 99	N	1,894	142	74	15	2,125	2,648	3,064	3,238	1,993
415	Calif. 57	W	124	17	3		144	181	209	186	137
	U. S. 99	S	1,974	142	74	15	2,205	2,748	3,180	3,343	2,065
	C. R	E	290	49	15	(x)	355	444	514	482	315
416	U. S. 99	N	3,928	383	150	27	4,488	5,599	6,477	5,940	4,271
	do	S	3,872	388	150	25	4,435	5,535	6,403	5,806	4,346
	Brundage Lane	W	784	67	27	2	880	1,102	1,275	1,192	883

TABLE 37.—*Motor-vehicle traffic in 1930 and forecast of future traffic at survey stations*—Continued

CALIFORNIA—Continued

Station No.	Route No.	Direction from station	Average daily density—1930					Forecast		Maximum daily vehicles, 1930	Winter average, 1930
			Passenger cars	Trucks under 3 tons	Trucks 3 tons and over	Busses	Total motor vehicles	1935	1940		
417	Calif. 57	E	283	31	5	(x)	320	400	463	810	236
	do	W	331	32	6	(x)	370	463	536	915	285
	C. R	NE	51	2			53	67	77	152	50
418	U. S. 99	S	8,824	674	236	31	9,765	12,216	14,134	11,706	9,035
	C. R	N	4,934	552	50	10	5,546	6,948	8,038	6,191	5,363
	U. S. 99	W	4,752	363	127	25	5,267	6,579	7,611	7,083	4,762
419	U. S. 101	N. and S	2,264	119	40	15	2,438	3,099	3,618	4,039	2,090
420	do	N. and S	3,207	297	50	17	3,571	4,546	5,306	6,959	2,839
421	do	N	2,296	177	29	16	2,518	3,298	3,906	4,811	2,010
	Calif. 57	E	117	14	2	2	135	175	208	392	111
	U. S. 101	S	2,330	178	29	17	2,554	3,344	3,960	4,854	2,003
422	do	N	1,634	97	35	14	1,780	2,328	2,757	4,704	1,318
	C. R	W	274	51	5	2	332	435	515	525	357
	do	E	283	56	6	3	348	455	539	534	375
	U. S. 101	S	1,792	118	50	16	1,976	2,583	3,060	5,080	1,472
423	do	N	4,036	388	200	56	4,680	6,094	7,218	5,802	4,292
	C. R	E	428	80	5	2	515	676	801	1,170	395
	U. S. 101	S	4,280	421	200	45	4,946	6,460	7,650	6,220	4,533
424	do	N. and S	7,910	664	240	63	8,877	11,617	13,759	12,499	8,036
425N	Calif. 58	S	171	34	6	(x)	212	265	306	254	202
	do	W	160	31	1	1	193	241	279	240	192
	C. R	N	16	4			20	25	29	22	19
	do	E	6	4			10	13	15	16	12
425 SW	U. S. 66	SW	718	40	7	12	777	960	1,111	1,180	686
	U. S. 91	NE	240	50	8	(x)	299	374	433	448	283
	Calif. 58	N	294	81	10	1	386	483	559	555	359
	do	S	506	117	5	3	631	788	912	951	587
501	Calif. 23	W	291	32	4	4	331	410	475	562	277
	Calif. 63	E	46	7	1	2	56	68	78	82	49
	Calif. 23	S	298	34	5	5	342	423	489	622	287
502	U. S. 66	E. and W	206	20	3	3	232	287	333	371	195
503	U. S. 80	E. and W	1,837	140	40	18	2,035	2,658	3,149	3,458	2,038

COLORADO

1	U. S. 138	NE	305	27	3	4	339	425	493	623	262
2	U. S. 38	E	412	56	2		470	596	692	579	414
3	U. S. 138	NE	886	120	10	8	1,024	1,289	1,497	1,422	968
4	U. S. 38	E	598	108	6	(x)	713	904	1,049	1,135	555
5	do	W	1,018	127	10	9	1,164	1,466	1,701	1,679	992
6	do	E	788	134	15	12	949	1,189	1,380	1,817	801
7	U. S. 85	N	1,818	215	25	12	2,070	2,612	3,031	3,051	1,783
8	do	S	2,672	422	49	35	3,178	3,988	4,630	5,048	2,834
9	do	N	426	53	5	11	495	614	713	1,142	287
10	U. S. 285	NW	580	87	5	1	673	853	990	2,070	452
	Colo. 1	NE	725	144	8	(x)	878	1,113	1,292	1,282	793
	U. S. 285	S	1,210	229	13	1	1,453	1,843	2,139	2,613	1,221
11	do	S	2,239	238	15	15	2,507	3,162	3,671	4,703	2,079
12	do	N	1,843	211	26	15	2,095	2,639	3,064	4,215	1,579
	Colo. 7	W	1,524	108	13	20	1,665	2,088	2,423	3,493	1,194
	U. S. 285	S	2,537	239	29	33	2,838	3,560	4,132	6,251	2,078
13	do	N	4,526	610	76	43	5,255	6,614	7,677	8,224	4,715
14	U. S. 85	NE	4,542	774	103	35	5,454	6,877	7,982	7,933	4,633
15	U. S. 40	W	5,614	484	36	20	6,154	7,784	9,035	10,115	4,648
16	Colo. 8	W	2,359	178	20	6	2,563	3,245	3,766	7,374	1,720
17	U. S. 85	S	4,131	430	45	15	4,621	5,845	6,785	7,318	4,041
18	U. S. 40	E	816	130	20	7	973	1,225	1,423	1,385	793
19	U. S. 85	NE	1,553	75	20	13	1,661	2,076	2,403	3,087	1,226
	do	SW	1,562	80	22	12	1,676	2,097	2,426	3,062	1,210
	Colo. 105	N	44	5	1		50	63	73	144	38
20	U. S. 40	NW	386	30	4	7	427	529	612	779	271
	U. S. 40S	SW	494	49	7	(x)	551	693	802	849	417
	do	E	880	78	11	8	977	1,221	1,413	1,651	685
21	U. S. 40N	E	278	25	4	6	313	387	448	442	205
	U. S. 40S	SE	316	19	3	3	341	426	493	583	186
	do	W	555	46	6	9	616	765	885	921	393
22	U. S. 40N	E	340	37	3	6	386	479	554	903	273
	do	S	462	81	6	8	557	692	800	889	439
	Colo. 51	N	156	49	3	1	209	262	303	357	178
	C. R	W	8	3		(x)	12	14	16	14	10
23	U. S. 40S	E	272	17	1	3	293	365	423	783	156
	do	W	352	34	2	3	391	489	566	900	241
	Colo. 51	S	80	17	1		98	123	143	125	81
24	U. S. 85	N	2,388	356	60	26	2,830	3,533	4,088	4,585	2,433
25	U. S. 40S	W	760	62	5	(x)	828	1,042	1,206	2,215	472
26	do	E	828	117	16	(x)	962	1,211	1,401	4,235	665
27	U. S. 85	SE	1,476	113	25	13	1,627	2,034	2,353	2,780	1,338
	do	N	1,873	144	28	13	2,058	2,597	2,982	3,550	1,609
	Colo. 115	SW	509	48	3	(x)	561	706	816	888	399
28	U. S. 85	N	1,338	89	25	12	1,464	1,830	2,117	2,603	1,195
29	do	S	854	106	10	12	982	1,222	1,414	1,434	821
30	U. S. 50	W	571	102	16	4	693	868	1,005	1,493	603
31	do	E	2,081	303	25	18	2,427	3,035	3,512	3,918	1,935
32	do	W	1,504	166	7	3	1,680	2,113	2,445	2,576	1,518
33	do	E	924	104	7	2	1,037	1,304	1,509	1,753	815
34	U. S. 350	SW	344	40	2	(x)	387	486	563	546	286
35	Colo. 59	N	732	64	4		800	1,008	1,166	1,310	743
	U. S. 50	S	1,911	130	8	2	2,051	2,582	2,987	3,825	1,810
	do	W	877	71	5	2	955	1,201	1,389	1,469	791
	C. R	E	262	17	1		280	353	408	400	279
36	U. S. 50	E	501	48	2	2	553	694	803	1,004	377
37	U. S. 350	NE	300	44	2	2	348	436	504	499	260
38	U. S. 85	S	565	42	7	13	627	774	895	1,065	394
39	do	N	1,224	132	8	12	1,376	1,719	1,989	2,216	1,192
40	do	S	1,000	121	7	16	1,144	1,421	1,645	2,022	915
41	U. S. 450	W	516	98	12	3	629	789	913	1,276	438

TABLE 37.—*Motor-vehicle traffic in 1930 and forecast of future traffic at survey stations*—Continued

COLORADO—Continued

Station No.	Route No.	Direction from station	Average daily density—1930					Forecast		Maximum daily vehicles, 1930	Winter average, 1930
			Passenger cars	Trucks under 3 tons	Trucks 3 tons and over	Busses	Total motor vehicles	1935	1940		
42	U. S. 85	S	846	112	8	15	981	1,217	1,408	1,369	827
43	do	N	676	62	10	12	760	942	1,091	1,225	602
44	Colo. 17	S	521	97	9	2	629	811	957	982	515
45	U. S. 450	W	522	69	13	1	605	785	922	757	588
46	do	E	585	110	16	(x)	712	923	1,085	1,076	594
	do	SW	942	162	18	2	1,124	1,467	1,712	1,713	946
	Colo. 17	N	372	61	2	2	437	565	664	652	391
47	U. S. 450	E	603	76	13	2	694	899	1,056	918	528
48	do	W	511	78	2	2	593	768	902	880	471
49	Colo. 15	N	510	96	3	2	611	791	929	1,350	423
50	Colo. 17	N	248	52	4		304	395	464	582	243
	do	S	184	30	1		215	279	328	427	173
	Colo. 163	SE	84	21	1		106	138	162	246	90
51	U. S. 38	E	612	85	9	11	717	896	1,040	1,441	508
	do	W	430	56	6	21	513	624	725	1,038	417
	Colo. 52	S	240	29	3		272	345	401	623	125
52	U. S. 50	E	378	50	2	(x)	431	559	656	1,016	287
53	U. S. 650	N	348	35	1	(x)	385	499	586	779	284
54	U. S. 50	NW	142	14			156	203	238	283	85
	do	E	316	24	2	2	344	444	522	657	220
	Colo. 15	S	284	26	2	2	314	405	476	670	204
55	U. S. 40S	E	108	18	1		127	165	194	261	73
	do	N	216	30	1		247	321	377	464	171
	U. S. 650	S	150	13	1		164	213	250	346	110
56	U. S. 40S	S	210	15	1		226	293	345	526	144
57	do	S	305	26	1		332	431	507	618	112
	do	N	209	21	1		231	300	353	434	94
	Colo. 91	E	110	5			115	149	175	232	25
58	U. S. 50	NW	831	175	3	2	1,011	1,311	1,540	2,614	707
59	do	E	1,152	187	19	5	1,363	1,764	2,072	1,852	1,004
60	U. S. 38	E. and W	1,314	151	20	12	1,497	1,884	2,187	2,651	1,150
61	U. S. 40S	W	104	9	1		114	148	174	224	77
	do	SE	100	9	1		110	143	168	218	74
	Colo. 11	N	40	4			44	57	67	129	17
62	U. S. 40S	E	231	27	1	(x)	260	336	395	460	154
63	do	W	399	66	4	2	471	609	716	691	325
64	do	E	290	38	4	(x)	333	431	507	620	266
65	do	W	246	33	3	(x)	283	366	430	397	215
66	Colo. 13	N	297	62	63	6	428	548	644	536	364
67	U. S. 40S	E	1,676	225	19	6	1,926	2,494	2,930	2,407	1,593
68	U. S. 50	W	1,322	187	8	6	1,523	1,970	2,315	2,304	1,418
69	do	SE	694	109	9	5	817	1,055	1,239	1,213	720
70	do	N	590	102	15	5	712	918	1,079	1,254	599
71	do	E	348	49	5		402	522	613	632	274
72	U. S. 550	E	1,250	214	20	1	1,485	1,928	2,265	2,054	1,197
	do	S	702	98	8	1	809	1,050	1,233	1,201	630
	Colo. 90	W	542	116	10	(x)	669	868	1,019	902	565
73	U. S. 550	N	304	38	2	(x)	345	446	525	1,030	213
74	U. S. 450	E	170	37	1	(x)	209	270	317	477	166
	do	NW	316	69	2	3	390	503	591	827	323
	Colo. 19	S	144	33	1	4	182	231	272	349	145
75	U. S. 450	W	305	86	3	1	395	512	601	703	278
76	do	E	132	23	2	2	159	204	240	256	128
	do	N	227	36	2	3	268	344	404	423	212
	Colo. 106	W	353	53	3	5	414	531	624	637	334
77	U. S. 40	E	645	153	27	(x)	826	1,072	1,259	1,240	609
	do	W	412	93	17	(x)	523	678	797	727	392
	Colo. 13	S	249	65	12		326	423	497	523	223
78	U. S. 40	E	209	32	1	(x)	243	314	369	563	135
79	do	N	94	22		(x)	117	151	177	333	31
80	do	E	136	30		(x)	167	216	253	510	60
81	Colo. 9 and 11	N	48	13			61	79	93	179	28
	Colo. 9	S	28	8			36	47	55	94	16
	Colo. 11	W	22	6			28	36	43	101	11
82	U. S. 450	E	158	42	2	(x)	203	262	308	747	112
	do	W	49	11	1	(x)	62	79	93	282	22
	Colo. 149	NW	109	32	1	(x)	143	184	217	463	91
83	U. S. 50	E	602	45	3	2	652	819	948	1,530	418
	do	W	517	37	3	2	559	702	812	1,363	347
	Colo. 169	N	144	18			162	204	236	271	134
84	U. S. 40	SE	441	40	8	9	498	621	720	945	362
	do	W	565	64	10	10	649	811	941	1,219	446
	U. S. 36	E	140	25	2		167	212	246	315	112
85	Colo. 54	E	194	33	3	3	233	292	339	333	202
	do	N	245	49	3	3	300	377	437	422	264
	Colo. 71	S	70	27			97	123	143	134	95
	C. R	W	8	4			12	15	18	31	12

IDAHO

1	U. S. 95	N	157	44	2	2	205	262	309	286	182
	do	S	362	64	5	2	433	556	655	829	320
	U. S. 2	E	228	30	2	(x)	261	335	395	577	183
2	U. S. 95	N	410	39	9	5	463	591	696	655	386
	Idaho 3	E	581	41	9	6	637	814	959	1,004	525
	U. S. 195	W	420	42	10	4	476	609	717	864	357
	U. S. 95	S	478	36	8	5	527	673	793	967	430
	do	N	584	57	5	3	649	833	982	1,223	566
3	U. S. 10	W	1,193	139	23	41	1,396	1,748	2,060	2,661	1,051
	do	E	1,364	133	17	42	1,556	1,953	2,301	2,802	1,245
	City St	S	346	50	6	4	406	519	611	579	408
	U. S. 95	SW	478	86	7	2	573	737	868	887	513
	U. S 10 and 95E	E	680	88	8	11	787	1,001	1,180	1,349	562
4	U. S. 10	E	383	38	6	10	437	551	649	950	297
	U. S. 10 and 95E	W	422	39	7	9	477	604	711	1,078	320
	U. S. 95E	S	66	5	1		72	93	109	225	42

TABLE 37.—*Motor-vehicle traffic in 1930 and forecast of future traffic at survey stations*—Continued

IDAHO—Continued

Station No.	Route No.	Direction from station	Average daily density—1930					Forecast		Maximum daily vehicles, 1930	Winter average, 1930
			Passenger cars	Trucks under 3 tons	Trucks 3 tons and over	Busses	Total motor vehicles	1935	1940		
5	U. S. 95E	N	75	9	1	6	91	110	129	129	76
	do	S	69	8	1	5	83	101	119	86	77
	Idaho 7	E	60	9	1	5	75	90	106	116	64
6	Idaho 6	W	296	36	3	4	339	432	509	496	297
	U. S. 95	N	73	12	1	(x)	87	111	131	168	62
	do	S	173	24	2	(x)	200	257	302	337	176
	U. S. 95E	E	424	52	4	5	485	619	730	784	417
	U. S. 95	E	388	46	3	4	441	564	664	713	355
	do	W	365	39	3	4	411	525	619	719	319
7	do	NE	191	23	3	5	222	280	330	342	204
	U. S. 195	NW	392	32	6	7	437	554	654	729	398
	U. S. 95 and 195	S	496	48	8	11	563	712	839	860	511
	do	N	519	62	9	9	599	761	897	822	538
8	U. S. 95	E	762	88	12	8	870	1,112	1,310	1,284	770
	U. S. 410	W	1,211	135	19	17	1,382	1,761	2,075	1,966	1,226
	U. S. 95	N	404	77	5	7	493	627	739	752	411
9	do	S	240	43	3	5	291	369	435	429	258
	Idaho 12	E	259	56	4	3	322	412	485	471	297
	Juliaetta Road	NE	109	15	1		125	161	190	184	123
10	Idaho 9	E	76	13	1	1	91	116	137	119	87
	do	SW	161	23	2	1	187	240	283	273	166
11	U. S. 95	N	346	36	2	(x)	385	495	584	568	362
	do	S	352	38	2	4	396	506	596	564	370
	do	N	225	13	3	5	246	311	366	634	132
12	do	S	122	8	2	2	134	170	201	510	76
	C. R	SW	112	8	2	3	125	157	185	241	82
	U. S. 95	N	458	55	5	3	521	668	787	769	431
13	U. S. 30N	SE	622	58	10	9	699	890	1,049	900	616
	do	SW	641	77	11	9	738	940	1,108	952	602
	do	N	1,510	145	11	8	1,674	2,149	2,532	2,264	1,480
14	U. S. 30	S	1,406	130	8	8	1,552	1,992	2,347	2,000	1,343
	do	W	1,222	107	8	17	1,354	1,725	2,032	1,963	1,131
	C. R	E	118	11			129	166	196	169	107
	U. S. 30	N	618	45	4	8	675	860	1,014	940	608
	do	S	972	75	7	9	1,063	1,360	1,602	1,513	911
15	Idaho 18	NW	458	40	4	(x)	503	648	763	770	497
	U. S. 30	SE	1,791	134	12	25	1,962	2,499	2,944	2,761	1,701
	Idaho 19	W	822	70	6	6	904	1,158	1,365	1,662	967
	C. R	S	292	34	2		328	423	499	445	304
16	U. S. 30	E	1,772	142	12	29	1,955	2,485	2,928	2,726	1,663
	do	W	1,658	132	11	29	1,830	2,323	2,738	2,397	1,618
	City St	N	62	19	1		82	106	125	136	42
	Idaho 15	N	146	12	2	2	162	206	243	324	128
17	do	E	884	51	13	9	957	1,223	1,441	1,523	854
	Idaho 16	W	785	43	11	7	846	1,082	1,275	1,281	783
18	U. S. 30	E	673	67	7	10	757	964	1,135	813	760
	do	W	2,968	228	18	30	3,244	4,146	4,885	4,304	2,996
	do	SE	499	28	6	9	542	688	810	705	440
19	do	NW	496	28	6	8	538	684	806	755	428
	Idaho 22	NE	26	4			30	39	46	53	24
	U. S. 30	S	365	25	3	9	402	507	597	561	317
20	Idaho 24	E	300	22	2	4	328	418	492	413	305
	U. S. 30	W	536	41	4	11	592	749	883	772	505
	U. S. 93	N	248	34	2		284	366	432	548	193
	do	S	202	24	2	(x)	229	294	347	506	177
21	Idaho 24	S	98	22	1		121	156	184	227	62
	Idaho 23	E	150	28	1	(x)	180	231	272	288	120
	Idaho 24	W	132	17	1	(x)	151	194	228	286	126
	U. S. 93	N	614	107	3	7	731	934	1,100	874	630
22	do	S	724	117	3	8	852	1,089	1,283	1,129	802
	Idaho 25	E	330	46	1	2	379	486	573	521	406
	do	W	562	64	2	3	631	810	955	795	601
	U. S. 93	N	351	61	2	2	416	534	629	615	383
23	do	S	386	39	1	2	428	550	648	661	411
	U. S. 30	E	1,948	186	10	13	2,157	2,766	3,259	2,500	1,929
	do	W	1,952	190	10	13	2,165	2,776	3,271	2,667	1,966
24	do	W	490	30	5	9	534	677	798	689	398
	U. S. 30S	S	119	12	2	(x)	134	172	202	234	73
25	U. S. 30N	E	280	15	9	6	310	392	462	542	183
	U. S. 30	W	384	26	10	6	426	542	638	738	237
	Idaho 37	S	162	39	5	(x)	207	266	313	426	91
26	U. S. 30N	E	474	64	12	7	557	710	836	994	288
	do	W	322	25	9	6	362	459	541	594	210
	U. S. 91	N	1,296	97	13	12	1,418	1,814	2,137	2,263	1,154
27	U. S. 30N. and 91	SE	1,068	85	13	12	1,178	1,504	1,772	2,158	797
	U. S. 30N	W	1,270	81	15	13	1,379	1,762	2,076	2,634	1,303
	U. S. 91	N	361	29	9	7	406	515	606	768	217
28	do	S	336	25	9	8	378	477	562	706	226
	Idaho 36	SW	143	23	3	(x)	170	218	257	321	106
	City St	E	113	16	4	(x)	134	172	202	247	99
	Idaho 34	N	588	81	7	2	678	872	1,028	1,233	560
29	U. S. 91	S	908	112	14	15	1,049	1,334	1,572	1,733	833
	do	W	784	96	12	10	902	1,151	1,356	1,266	683
	Idaho 34	S	216	15	1	(x)	233	299	353	356	119
30	U. S. 30N	E	395	22	2	(x)	420	541	637	686	207
	do	NW	240	16	2	1	259	333	392	425	131
	Idaho 35	S	414	58	2	(x)	475	611	720	719	391
31	U. S. 30N	W	312	24	1	1	338	435	512	662	257
	do	E	338	21	1	(x)	361	464	547	650	281
	U. S. 30N and 91	N	778	47	15	11	851	1,084	1,277	1,465	452
32	U. S. 91	S	536	38	10	10	594	753	888	910	334
	U. S. 30N	E	368	23	3	2	396	508	599	849	190
	U. S. 91	N	1,444	138	24	13	1,619	2,072	2,441	1,991	1,526
	do	S	1,098	94	16	12	1,220	1,558	1,836	1,971	894
33	Idaho 27	W	134	29	1	(x)	165	212	249	182	150
	Idaho 39	SW	202	27	1	(x)	231	297	350	322	216
	Idaho 27	E	302	41	5	(x)	349	449	529	476	295
	U. S. 91	N	74	10		(x)	85	108	128	151	39
34	do	S	109	13		(x)	123	157	185	228	58
	Idaho 28	W	34	5			39	50	59	63	22

TABLE 37.—*Motor-vehicle traffic in 1930 and forecast of future traffic at survey stations*—Continued

IDAHO—Continued

Station No.	Route No.	Direction from station	Average daily density—1930					Forecast		Maximum daily vehicles, 1930	Winter average, 1930
			Passenger cars	Trucks under 3 tons	Trucks 3 tons and over	Busses	Total motor vehicles	1935	1940		
35	U. S. 191	N	938	65	12	5	1,020	1,309	1,543	1,781	746
	do	S	1,098	81	15	6	1,200	1,540	1,815	2,143	833
	Idaho 22	E	240	34	4	(x)	279	359	422	490	207
	C. R.	SE	36	14		(x)	51	65	76	53	46
36	U. S. 30	E	1,032	100	10	19	1,161	1,473	1,736	1,359	961
	do	W	960	122	10	14	1,106	1,409	1,660	1,746	1,089
37	U. S. 10	E	912	62	12	21	1,007	1,272	1,499	1,710	1,005
	do	W	983	83	15	18	1,099	1,394	1,643	1,625	1,098
38	U. S. 95	N	350	71	3	6	430	547	644	642	354
	do	S	296	53	3	3	355	454	535	638	276
	Idaho 12	E	33	11	1	(x)	46	58	68	122	38
39	U. S. 95	N	68	30	2	2	102	129	152	173	94
	Idaho 15	E	63	7	1	1	72	92	108	195	57
	U. S. 95	W	67	6	1	1	75	95	112	141	60
40	Idaho 15	N	44	12	1	1	58	74	87	200	43
	do	S	56	16	2	(x)	75	95	112	154	58
	Idaho 17	E	35	5			40	52	61	131	37
41	Emmett Road	E	100	29	2		131	169	199	232	87
	U. S. 30	W	351	86	7	8	452	573	675	896	308
	do	S	262	74	5	8	349	440	518	672	252
42	Idaho 16	N	75	31	3	4	113	141	166	158	86
	do	E	337	48	11	8	404	511	602	672	281
	Middleton Road	W	241	33	6	4	284	361	426	543	178
44	U. S. 93	NW	104	17	1		122	157	185	507	48
	Chilly F. H.	NE	36	6			42	54	64	154	18
	U. S. 93	SE	142	21	1		164	212	249	690	60
46	do	N	47	7		(x)	55	70	82	104	44
	do	S	16	1			17	22	26	30	16
	Idaho 27	SE	30	6			36	46	55	48	31
47	U. S. 93	N	179	29	2	(x)	211	271	319	356	167
	do	S	188	50	2	2	242	310	365	358	202
	Idaho 28	SE	316	83	4	(x)	404	520	613	578	316
48	Idaho 27	NW	195	35	1		231	298	351	3-2	219
	do	E	179	35	1		215	277	327	349	199
49	Idaho 22	SW	270	67	3	(x)	341	439	517	559	305
	U. S. 191	N. and S.	189	11	3	(x)	202	259	306	1,065	39
50	Victor Road	N	24	1			25	32	38	104	14
	Idaho 22	NW	62	7			69	89	105	258	37
	do	SE	46	7			53	68	81	149	22
51	U. S. 191	NE	258	33	3	4	298	279	447	612	213
	do	SW	403	46	4	3	456	584	689	850	348
	Idaho 33	E	250	35	3		288	372	438	473	175
52	U. S. 93	NW	153	36	2		191	246	290	269	190
	do	S	184	35	2		221	285	336	304	195
	Idaho 22	SE	80	25	1		106	137	161	150	87
53	Idaho 25	S	193	34	2	(x)	230	295	348	496	247
	Idaho 24	E	128	25	1		154	199	234	200	164
	do	W	269	24	2	(x)	296	381	448	400	240
	Fairfield Road	N	87	23			110	142	167	139	107
54	Minidoka Road	NE	136	37	2	3	178	226	266	238	156
	Burley Road	SW	236	42	2	4	284	361	426	382	224
	Idaho 25	E	93	28	1	5	127	157	185	158	99
	do	W	80	19	1		100	129	152	135	101
55	U. S. 30	E	1,586	161	6	11	1,764	2,261	2,665	2,880	1,430
	do	W	1,559	156	6	9	1,730	2,220	2,616	2,830	1,446
	U. S. 93	S	99	16		(x)	116	148	175	333	101

NEBRASKA

1	U. S. 73	N	548	35	1	10	594	729	842	1,039	450
	do	S	694	47	1	10	752	927	1,069	1,031	634
	Nebr. 4	W	322	22			344	430	496	464	343
2	U. S. 75	N	867	89	5	11	972	1,200	1,385	1,984	775
	do	S	916	79	5	11	1,011	1,249	1,441	1,912	799
	Nebr. 3	W	531	51	3	(x)	586	731	843	867	534
3	U. S. 75	S	742	110	5	12	869	1,070	1,235	1,258	791
	do	N	893	94	4	11	1,002	1,238	1,428	1,677	726
	Nebr. 24	W	648	95	4	6	753	933	1,076	1,247	658
4	U. S. 75	N. and S.	816	159	20	14	1,009	1,243	1,434	2,296	646
5	U. S. 38	E. and W.	1,085	125	15	31	1,256	1,530	1,765	2,701	973
6A	U. S. 77	N	737	50	3	7	797	987	1,138	1,311	694
	Nebr. 11	W	1,030	104	7	8	1,149	1,425	1,644	2,336	887
	Road to airport	W	202	10	2		214	267	308	944	145
	Nebr. 11	SE	1,302	118	8	9	1,437	1,784	2,058	3,014	966
6B	U. S. 38	NE	1,548	131	12	28	1,719	2,112	2,437	2,700	1,395
	Nebr. 11	E	1,180	86	6	12	1,284	1,589	1,833	2,051	1,051
	U. S. 38	W	1,080	120	8	17	1,225	1,509	1,741	2,252	1,222
	Nebr. 24	SE	839	81	5	1	926	1,155	1,333	1,907	772
7	U. S. 77	N	1,504	143	15	27	1,689	2,076	2,395	2,593	1,527
	do	S	902	89	10	15	1,016	1,250	1,442	1,615	987
	Nebr. 33	W	717	71	5	14	807	990	1,143	1,187	657
8	Nebr. 15	E	523	42	4	11	580	711	820	1,140	366
	U. S. 38	N	374	32	3	5	414	511	589	755	439
	do	W	660	68	6	15	749	917	1,058	1,281	540
9	U. S. 38 and 81	E	908	53	4	16	981	1,205	1,391	1,700	791
	U. S. 38	W	659	43	3	14	719	881	1,016	1,269	515
	U. S. 81	S	482	34	3	3	522	648	748	764	473
10	do	N	442	33	2	4	481	596	687	731	442
	do	N. and S.	411	44	4	4	463	573	661	664	395
11	Nebr. 15	N	278	23	1		302	377	435	432	280
	Nebr. 3	E	446	41	3	4	494	612	706	823	443
	Nebr. 3 and 15	S	683	58	4	4	749	931	1,074	1,180	701
12	Nebr. 3	W	532	48	4	(x)	585	729	842	1,021	577
	do	N	274	28	2		304	380	438	601	304
	Nebr. 4	S	296	30	2	(x)	329	410	473	515	326

TABLE 37.—*Motor-vehicle traffic in 1930 and forecast of future traffic at survey stations*—Continued

NEBRASKA—Continued

Station No.	Route No.	Direction from station	Average daily density—1930					Forecast		Maximum daily vehicles, 1930	Winter average, 1930
			Passenger cars	Trucks under 3 tons	Trucks 3 tons and over	Busses	Total motor vehicles	1935	1940		
13	Nebr. 5	S	864	121	15	10	1,010	1,249	1,441	2,317	780
	Nebr. 130	SW	490	49	6		545	681	785	800	488
	Nebr. 5	N	860	112	14	9	995	1,232	1,421	2,016	741
	Nebr. 130	E	194	11	1		206	257	297	755	102
14A	U. S. 77	N	596	48	8	8	660	814	940	1,357	547
	Nebr. 5	E	412	37	6	9	464	568	656	908	401
14B	U. S. 77	E	556	40	7		603	753	869	1,085	510
	do	S	246	17	3		266	332	383	477	225
	Nebr. 9	W	340	27	5		372	465	536	719	313
15	U. S. 77	N. and S	485	61	5	9	560	688	794	977	462
16A	do	NE	864	156	18	9	1,047	1,296	1,496	1,598	852
	do	S	788	131	15	9	943	1,167	1,346	1,332	864
	Nebr. 35	SW	312	79	9		400	500	576	537	347
16B	U. S. 20	W	608	136	16	8	768	949	1,095	1,289	677
	do	NE	728	134	15	8	885	1,095	1,264	1,512	698
	C. R	S	130	13	1		144	180	208	406	98
17A	Nebr. 9	N	232	15	2	1	250	311	359	405	254
	U. S. 20	W	251	31	5	1	288	358	414	384	250
	do	E	436	50	7	3	496	616	710	695	482
17B	do	W	300	30	5	3	338	418	483	432	317
	do	E	256	30	5	1	292	363	419	613	282
	Nebr. 9	S	222	16	2	3	243	300	346	484	257
18	Nebr. 35	E	355	29	3	3	390	483	558	508	335
	Nebr. 15	N	568	36	3	1	608	758	875	767	524
	Nebr. 35 and 15	S	886	51	4	5	946	1,175	1,356	1,210	814
19A	Nebr. 36	E	234	26	2	2	264	327	378	655	198
	Nebr. 8	SE	453	41	3	(x)	498	621	716	1,106	371
	do	W	654	62	4	2	722	899	1,038	1,706	558
19B	Nebr. 31	S	98	16	2		116	145	167	232	98
	do	N	98	13	1		112	140	161	318	96
	Nebr. 8	W	554	53	3	2	612	762	879	1,674	429
20	U. S. 81	NW	1,004	105	6	5	1,120	1,393	1,607	2,207	973
	do	S	900	64	4	10	978	1,209	1,395	1,904	845
	Nebr. 8	E	814	64	6	6	890	1,104	1,274	1,458	854
	do	W	909	74	4	4	991	1,233	1,422	1,484	973
	Nebr. 35	N	394	34	2	2	432	537	620	780	424
21	Nebr. 15	N	378	23	3	6	410	505	582	585	334
	Nebr. 8 and 15	W	694	71	10	7	782	968	1,117	1,159	637
	Nebr. 8 Wisner	SE	1,102	91	13	13	1,219	1,506	1,738	1,891	877
22	Nebr. 8 West Point	SE	700	65	9	7	781	967	1,115	1,177	644
	Nebr. 8	NW and SE	676	77	18	7	778	963	1,111	1,347	642
23A	U. S. 77	N	1,222	187	21	7	1,437	1,786	2,061	2,294	1,342
	U. S. 30	W	1,050	138	16	2	1,206	1,504	1,735	1,476	1,067
	Nebr. 130	E	508	45	5		558	697	804	1,133	449
	U. S. 30	SE	1,396	231	30	20	1,677	2,070	2,388	2,973	1,612
23B	U. S. 77	S	494	49	7	6	556	687	793	721	523
	do	E	530	46	6	6	588	727	839	786	576
	Town road Cedar Bluffs	W	396	50	4	11	461	562	648	570	471
24	Nebr. 31	N	200	24	2	(x)	227	282	326	361	190
	do	S	232	18	2	(x)	253	315	363	527	227
	U. S. 30	E	1,184	239	41	17	1,481	1,829	2,110	2,137	1,261
	do	W	1,308	248	42	17	1,615	1,996	2,303	2,318	1,388
25	U. S. 77	N	710	56	8	6	780	967	1,115	1,344	590
	Nebr. 16	E	834	100	18	5	957	1,189	1,372	1,556	757
	U. S. 77	S	1,406	140	26	10	1,582	1,963	2,265	2,573	1,245
26	Nebr. 16	E	484	67	6	2	559	696	803	674	455
	Nebr. 15	S	393	33	3	5	434	536	618	537	395
	Nebr. 15 and 16	W	716	72	6	6	800	992	1,144	991	642
27	U. S. 30	W	678	66	12	5	761	944	1,089	1,273	634
	Nebr. 15	N	346	41	3		390	487	562	524	322
	U. S. 30	E	620	77	14	(x)	712	888	1,025	1,171	571
	Nebr. 15	S	394	22	3	5	424	523	604	800	349
28A	U. S. 81	N	797	56	8	7	868	1,075	1,241	1,537	720
	Nebr. 13	W	659	60	8	(x)	728	908	1,048	1,381	644
	U. S. 81 and 30	S	1,555	100	14	7	1,676	2,085	2,405	3,091	1,296
	U. S. 30	E	766	95	13	4	878	1,092	1,259	1,865	733
28B	do	W	598	45	6	(x)	650	811	935	904	527
	U. S. 81 and 30	N	1,250	97	14	6	1,367	1,700	1,961	2,719	1,111
	U. S. 81	S	766	63	9	7	845	1,047	1,208	1,667	700
28C	do	W	420	27	4	5	456	563	650	656	488
	Nebr. 64	E	426	38	5	2	471	586	676	1,023	381
29	U. S. 30	NE	409	34	4	(x)	448	558	644	834	273
	do	SW	466	39	5	(x)	511	637	735	1,089	299
	Nebr. 16	SE	83	10			93	116	134	269	49
	do	NW	20	2			22	27	32	36	13
30	U. S. 30	NE	654	50	8	4	716	889	1,026	1,644	515
	do	SW	642	48	7	4	701	871	1,004	1,759	500
	Nebr. 69	W	82	9	1		92	115	133	178	101
31	Nebr. 11	E	754	65	7	18	844	1,070	1,261	1,455	702
	Nebr. 2	S	669	64	7	16	756	959	1,130	949	658
	Nebr. 2 and 11	N	1,248	111	12	30	1,401	1,777	2,094	1,644	1,282
32	Nebr. 2	N	1,060	90	8	23	1,181	1,501	1,768	2,047	943
	do	S	800	76	7	4	887	1,144	1,348	1,439	722
	U. S. 38	E	1,032	75	6	21	1,134	1,442	1,700	1,601	922
	do	W	1,196	90	8	7	1,301	1,677	1,976	1,943	1,141
33A	Nebr. 14	N	160	17	1		178	222	256	409	151
	U. S. 38	E	647	57	2	17	723	882	1,017	1,559	551
	do	W	718	59	3	18	798	974	1,124	1,269	623
33B	Nebr. 14	S	290	20	1	2	313	388	448	525	302
	U. S. 38	E	695	58	3	16	772	944	1,089	1,340	598
	Nebr. 14	N	356	34	3		393	491	566	570	395
34	do	S	343	32	2		377	471	543	633	347
	Nebr. 11	E	646	66	6	16	734	897	1,035	1,240	589
	do	W	682	68	6	16	772	944	1,089	1,086	723
	U. S. 81	N	888	56	9	4	957	1,190	1,373	1,198	872
35A	Nebr. 11	E	1,006	77	13	15	1,111	1,369	1,579	1,389	968
	U. S. 81	S	1,705	111	19	16	1,851	2,292	2,644	2,239	1,712
	Nebr. 11	W	680	78	8	13	779	957	1,104	1,031	808
35B	do	E	542	59	7	10	618	759	876	1,020	673
	T. R	N	30	2			32	40	46	57	36

TABLE 37.—*Motor-vehicle traffic in 1930 and forecast of future traffic at survey stations*—Continued

NEBRASKA—Continued

Station No.	Route No.	Direction from station	Average daily density—1930					Forecast		Maximum daily vehicles, 1930	Winter average, 1930
			Passenger cars	Trucks under 3 tons	Trucks 3 tons and over	Busses	Total motor vehicles	1935	1940		
35C	U. S. 81	S.	854	53	5	2	914	1,139	1,314	1,390	808
36A	Nebr. 15	N.	673	39	5	6	723	896	1,033	1,382	754
	C. R.	W.	182	10	1	(x)	194	241	278	252	177
	Nebr. 15	S.	716	42	5	7	770	953	1,099	1,280	741
36B	Nebr. 11	E.	624	44	6	8	682	842	971	1,033	505
	Nebr. 15	S.	688	54	7	15	764	936	1,079	1,669	809
	Nebr. 11 and 15	W.	1,282	92	12	25	1,411	1,731	1,997	2,589	1,297
36C	Nebr. 11	W.	962	74	12	19	1,067	1,309	1,510	1,598	999
37	Nebr. 10	N.	300	18	2	3	323	415	489	500	262
	U. S. 38	E.	558	33	4	5	600	771	909	758	437
	do	S.	644	40	6	1	691	894	1,054	999	482
38	Nebr. 10	N.	230	28	3		261	338	399	341	240
	do	S.	274	27	3		304	394	464	498	307
	Nebr. 3	E.	354	24	2	(x)	381	492	580	517	318
	do	W.	401	24	2		427	553	652	645	391
39	U. S. 38	N.	592	35	6	2	635	820	967	1,348	487
	Nebr. 3	SE.	384	29	3	(x)	417	539	635	775	400
	U. S. 38	W.	968	58	10	2	1,038	1,343	1,582	2,149	893
40	do	E.	496	36	7	2	541	699	823	831	414
	do	W.	562	32	6	2	602	778	916	1,127	457
41	do	NW.	372	54	4		430	557	657	637	408
	Nebr. 3	W.	332	29	2	1	364	470	554	514	327
	U. S. 38	E.	672	78	6	1	757	980	1,154	1,121	713
42	Nebr. 23	N.	236	19	1	2	258	332	391	729	213
	do	S.	352	25	1	2	380	490	577	916	340
	Nebr. 6	SE.	216	17	1		234	303	357	531	222
	Nebr. 23	NW.	360	26	1		387	502	591	683	305
43A	Nebr. 16	NE.	493	32	2	(x)	528	683	805	1,197	420
	Nebr. 16 and 23	S.	870	57	3	(x)	931	1,205	1,420	1,540	828
43B	Nebr. 23	S.	376	41	2	3	422	543	640	1,054	470
	S. 30	E.	730	40	3	3	776	1,002	1,180	1,534	705
	do	W.	986	61	3	4	1,054	1,361	1,603	1,379	853
44	do	N.	738	59	5	5	807	1,039	1,225	1,207	607
	do	E.	710	56	5	5	776	999	1,177	1,096	591
	Nebr. 21	S.	312	24	2	(x)	339	438	516	704	317
45A	U. S. 38	E.	756	37	7	2	802	1,037	1,222	1,129	656
	do	S.	456	26	5	2	489	631	744	766	362
	Nebr. 6	W.	317	18	2		337	437	515	551	319
45B	Nebr. 22	N.	292	29	4		325	421	496	507	279
	U. S. 38	E.	624	36	8	2	670	866	1,020	1,035	518
	Nebr. 10	N.	646	51	5	6	708	910	1,072	1,369	696
46A	Nebr. 44	S.	422	33	3	4	462	594	699	794	458
	Nebr. 10	E.	245	22	2	2	271	349	411	590	255
	do	N.	400	39	3		442	573	675	677	460
46B	U. S. 30	E.	936	83	8	6	1,033	1,331	1,568	1,530	805
	do	W.	1,062	74	8	4	1,148	1,483	1,747	1,815	840
	Nebr. 2 and 10	N.	354	30	4	2	390	503	592	723	338
47	Nebr. 2	E.	298	25	3	2	328	422	498	692	297
	Nebr. 10	W.	218	13	2		233	302	356	529	205
	Nebr. 2	W.	396	50	12	2	460	594	699	800	359
48	U. S. 30	E.	910	83	19	10	1,022	1,312	1,545	1,824	719
	do	S.	598	41	10	8	657	841	991	1,272	425
	Nebr. 61	S.	230	83	5	(x)	319	412	486	522	321
49	U. S. 30	E.	686	45	3	4	738	951	1,121	1,465	469
	do	W.	594	39	3	3	639	824	971	1,299	435
	U. S. 26	N.	250	21	1		272	353	415	525	205
	Nebr. 2	NW.	106	10			116	144	166	280	89
50	Nebr. 59	NE.	60	10			70	87	100	144	61
	Nebr. 2	SE.	168	17	1		186	231	266	424	154
51	do	E. and W.	270	23			293	398	481	450	235
52	do	E. and W.	101	9		(x)	111	143	168	253	84
	Nebr. 2 and 19	E.	799	85	11	1	896	1,160	1,367	1,413	578
53A	Nebr. 2	NW.	325	58	5		388	503	592	757	206
	Nebr. 19	SW.	498	37	3	1	539	697	822	916	411
	Nebr. 2	E.	285	25	1	(x)	312	403	475	555	257
53B	Nebr. 19	N.	391	61	5	2	459	592	698	938	364
	do	N.	214	24	1	2	241	310	365	366	191
54	U. S. 26	W.	372	39	2	3	416	535	631	557	323
	do	S.	445	47	3	2	497	642	756	752	380
55	Nebr. 29	N. and S.	264	38	2	3	307	394	464	616	247
	do	N.	246	51	3		300	389	458	428	204
56	U. S. 30	W.	448	61	5	3	517	666	785	957	340
	do	E.	476	60	4	3	543	700	825	840	372
	Nebr. 19	N.	445	47	3	2	497	642	756	646	381
57	U. S. 30	E.	693	63	3	3	762	984	1,159	1,080	505
	do	W.	502	47	3	3	555	715	843	743	371
	Nebr. 19	S.	340	54	2	2	398	513	605	540	281
	U. S. 26	NW.	302	30	2	1	335	433	510	475	287
58	Nebr. 19	S.	128	11	1	1	141	181	214	204	119
	U. S. 26	E.	189	17	1	(x)	208	268	316	295	173
59	do	NW. and SE.	264	19	1		284	368	434	446	254
	U. S. 30	E.	434	31	2	3	470	476	560	988	522
60	do	W.	306	44	3	2	355	457	539	832	389
	U. S. 138	SW.	291	21	2	4	318	407	479	539	334
	Nebr. 16	W.	208	15	1	(x)	225	290	342	376	205
61	Nebr. 11	N.	218	16	2	3	239	306	360	365	223
	Nebr. 11 and 16	E.	396	27	3	3	429	552	651	651	409
	Nebr. 11	S.	578	34	4	3	619	798	941	1,141	543
	Nebr. 16	NW.	306	20	2		328	425	501	487	291
62	Nebr. 58	SE.	133	11	1		145	188	221	257	129
	Nebr. 16	E.	156	13	1		170	220	260	218	168
	Nebr. 10	N.	226	23	2		251	325	383	376	259
63	Nebr. 2 and 16	NW.	354	27	3	2	386	498	586	596	338
	Nebr. 2, 10, and 16	S.	566	45	5	2	618	798	941	804	567
	Nebr. 54	N.	176	14			190	236	272	368	179
64	Nebr. 11	W.	158	16			174	216	249	212	165
	do	SE.	185	18	1	2	206	253	292	242	206
	Nebr. 53	E.	109	8			117	145	167	218	124
	Nebr. 13	N.	49	7	1		57	71	81	83	39
65	Nebr. 53	W.	94	11	1		106	132	151	175	67
	Nebr. 13	E.	210	35	3		248	308	354	346	215

TABLE 37.—*Motor-vehicle traffic in 1930 and forecast of future traffic at survey stations*—Continued

NEBRASKA—Continued

Station No.	Route No.	Direction from station	Average daily density—1930					Forecast		Maximum daily vehicles, 1930	Winter average, 1930
			Passenger cars	Trucks under 3 tons	Trucks 3 tons and over	Busses	Total motor vehicles	1935	1940		
66A	Nebr. 8	N	320	28	1	1	350	433	499	516	338
	U. S. 20	W	339	29	1	1	370	458	527	628	309
	do	S	608	50	1	2	661	818	942	1,061	589
66B	Nebr. 13	S	112	37	1		150	186	214	228	134
	U. S. 20	E	440	37	1	4	482	593	683	761	364
	do	N	341	34	1	4	380	467	537	548	302
67	Nebr. 8	S	256	21	1	4	282	345	397	429	238
	U. S. 20	E	197	21	1	(x)	220	272	313	359	179
	Nebr. 8	NW	412	38	2	4	456	565	651	778	389
68	do	SE	446	47	2	4	499	618	713	808	403
	Nebr. 14	S	254	17	1		272	340	392	436	238
	Nebr. 32	E	322	29	3	4	358	442	510	504	329
69A	C. R.	E	141	11	1	(x)	154	191	220	257	129
	Nebr. 32	W	482	38	4	4	528	654	755	769	453
	Nebr. 14	N	457	31	2		490	612	706	713	487
69B	do	SE	414	32	3	4	453	561	647	610	395
	Nebr. 39	SE	240	18	2		260	325	375	413	232
	Nebr. 14	NW	322	33	4	3	362	448	517	499	325
70	Nebr. 13	E	550	67	8	(x)	626	781	901	1,193	561
	Nebr. 13 and 14	SW	228	29	3	3	263	325	375	485	224
	Nebr. 13	N	126	11	1	(x)	139	179	211	209	133
71	do	E	158	18	2		178	231	272	350	180
	Nebr. 34	S	134	11	1	(x)	147	189	223	241	137
	Nebr. 56	E	274	19	1	5	299	381	449	468	247
72	Nebr. 11	NW	210	19	1	3	233	298	351	407	203
	do	SE	174	15	1	2	192	246	290	309	154
	US. 81	W	186	11	1	2	200	247	285	570	92
73	do	N	239	33	3	3	278	343	396	719	175
	Nebr. 15	S	121	9	1		131	164	189	299	86
	Nebr. 12	E	276	13			289	359	413	513	246
74	Nebr. 8	S	331	21	1	(x)	354	438	504	782	295
	Nebr. 12 and 8	NW	456	22	1	(x)	480	594	684	778	426
	U. S. 20	W	139	13	1		153	190	219	289	113
75A	do	S	105	11	1		117	145	167	346	89
	Nebr. 10A	E	142	8	1		151	187	216	300	117
	Nebr. 10	N	58	4			62	77	89	228	31
75B	do	SE	132	9			141	175	201	543	81
	Nebr. 60	N	106	25	1		132	180	217	225	119
	U. S. 20	NW	202	25	1		228	310	374	472	173
76	do	S	293	47	1		341	464	560	605	243
	do	E	236	30	1		267	363	438	935	183
	Nebr. 62	N	212	109	10	(x)	332	429	505	500	231
77	U. S. 20	W	355	28	3		386	500	589	571	334
	do	E	196	25	2		223	289	341	428	193
	Nebr. 19	N	108	9		(x)	118	152	179	417	65
78	do	S	467	35	3	3	508	654	771	1,435	373
	U. S. 20	E	320	17	1		338	438	516	618	279
	do	W	216	18	1	(x)	236	305	359	414	218
	Nebr. 2	S	152	9			161	209	246	334	122
79	U. S. 20	NE	217	20	1		238	308	363	430	195
	do	W	110	11	1		122	158	186	209	91
	Nebr. 61	S	177	17	1		195	265	320	388	211
80	Nebr. 49	SE	114	17	1		132	180	217	249	146
	Nebr. 40	W	94	22	2		118	160	194	160	96
81	do	E	176	30	4	(x)	211	286	345	265	185
	Nebr. 16A	S	107	10	2	(x)	120	162	195	170	112
	U. S. 38	W	272	41	3		316	410	483	568	251
82	do	E	251	25	2		278	360	425	505	247
	Nebr. 48	SW	175	18	1		194	251	296	310	187
	Nebr. 3	E	242	29	1	3	275	353	415	422	245
83	do	W	265	23	1	3	292	375	441	622	246
	Nebr. 71	S	186	17			203	263	310	423	192
	U. S. 81	N	286	17	2	2	307	381	440	567	216
84A	U. S. 20	W	266	25	3	3	297	367	424	472	245
	U. S. 20 and 81	E	391	43	5	3	442	548	633	882	312
84B	U. S. 20	E	154	24	4	(x)	183	227	262	397	110
	U. S. 81	S	260	27	3	2	292	362	418	637	187
85	do	N. and S	398	24	1	(x)	424	528	610	908	352
	U. S. 77	N	345	22	1	3	371	460	530	777	311
86	do	S	239	13	1	4	257	316	365	642	179
	Nebr. 68	E	190	12			202	252	291	382	176
	do	W	89	9			98	122	141	203	93
87	U. S. 75	N. and S	182	4		(x)	187	232	268	365	149
	U. S. 20	W	115	11	1		127	165	194	237	110
88	do	E	196	11	1		208	270	318	395	166
	Nebr. 63	S	60	10			70	91	107	209	67
89	U. S 26	E. and W	434	64	4	(x)	503	651	767	798	428
90	U. S. 30	E. and W	369	62	4	3	438	564	664	737	285

NEVADA

1	Nev. 9	N. and S	423	34	5	4	466	624	748	985	348
2	U. S. 40	E. and W	1,234	132	10	8	1,384	1,858	2,229	4,000	1,051
	Nev. 3	N	1,841	139	13	7	2,000	2,691	3,229	3,430	1,704
3	do	S	1,652	88	8	7	1,755	2,360	2,832	3,075	1,487
	C. R.	SW	311	45	4		360	486	583	813	296
	Nev. 3	N	1,118	38	3	6	1,165	1,565	1,878	3,020	869
4	do	S	1,059	36	3	5	1,103	1,482	1,779	2,983	815
	Nev. 17	SE	77	9		(x)	87	116	139	278	68
5	Nev. 3	N. and S	792	28	3	7	830	1,111	1,333	1,465	599
6	U. S. 50	NE. and SW	117	16	1		134	181	217	277	91
	do	N	357	17	3	4	381	509	611	784	347
7	do	W	82	7		(x)	90	120	144	437	33
	Nev. 3	S	391	13	3	4	411	549	659	613	346
	do	N	359	12	3	5	379	505	606	590	342
8	do	S	444	9	3	6	462	616	739	728	375
	Nev. 19	W	89	2		(x)	92	123	147	173	64

TABLE 37.—*Motor-vehicle traffic in 1930 and forecast of future traffic at survey stations*—Continued

NEVADA—Continued

Station No.	Route No.	Direction from station	Average daily density—1930					Forecast		Maximum daily vehicles, 1930	Winter average, 1930
			Passenger cars	Trucks under 3 tons	Trucks 3 tons and over	Busses	Total motor vehicles	1935	1940		
9	Nev. 3	N. and SW	367	55	5	4	431	576	692	509	371
10H	do	NW	27	3	1	1	32	42	50	56	31
	do	S	37	4	1	1	43	57	68	68	34
10Y	Nev. 1A	N	35	5	1	(x)	42	55	66	76	28
	Nev. 3	NW	30	4	1	2	37	47	57	60	31
	do	S	23	5	1	1	30	39	47	55	27
	C. R.	N	19	6		(x)	26	34	41	50	24
11	Nev. 3	E. and W	189	25	1	5	220	290	348	319	182
12	do	NW	110	27	4	3	144	190	228	269	102
	Nev. 19	S	36	12	1	(x)	50	66	79	196	34
13	Nev. 3	E	77	12	3	3	95	124	149	144	74
14	U. S. 40	E. and W	3,667	298	30	65	4,060	5,393	6,472	5,330	3,776
15	do	E. and W	621	53	5	4	683	917	1,100	1,170	559
	do	NE	112	8	1		121	163	196	270	101
	do	W	338	18	3	3	362	485	582	573	312
	U. S. 50	SE	248	14	4	3	269	359	431	486	236
16	U. S. 40	NE	146	14	1		161	217	261	265	124
	do	SW	133	12	1		146	197	237	229	113
	C. R.	S	52	13			65	88	105	81	57
17	U. S. 40	NE. and SW	194	18	1		213	288	345	473	135
18	do	NE	162	14	2		178	240	288	398	97
	do	SW	184	13	2		199	269	322	468	110
	Nev. 8	N	80	18	2		100	135	162	168	87
19	U. S. 40	E	63	8	1		72	97	117	203	45
	do	NW	70	10	1		81	109	131	203	63
	Nev. 8A	S	21	10	1		32	43	52	46	23
20	U. S. 50	SE	64	26	6	2	98	130	156	150	52
	do	SW	54	13	4	2	73	96	115	248	51
	Nev. 8A	NW	13	6			19	26	31	27	8
	S. R.	S	41	30	6		77	104	125	127	13
21	U. S. 50	E. and W	49	8	4	2	63	82	99	89	39
22	Nev. 2	NW	178	17	4	3	202	269	322	363	196
	U. S. 50	E	257	24	4	3	288	385	462	381	250
	do	SW	73	10			83	112	134	204	62
23	U. S. 40	NE. and SW	283	27	1	(x)	312	420	504	657	169
24	do	NE. and SW	262	26	1	(x)	290	390	468	688	132
25	U. S. 93	N	43	7		(x)	51	68	81	108	30
	U. S. 40	E	122	8	1	(x)	132	177	212	283	75
	do	W	154	10	1	(x)	166	223	267	454	70
	Nev. 13	S	55	12	1		68	92	110	125	47
26	U. S. 40	E	89	8	1	2	100	132	159	350	60
	do	W	67	8	1	1	77	103	123	303	44
	U. S. 50	S	26	5		2	33	42	50	59	16
27	do	NW	33	11	1	2	47	61	73	84	33
	do	E	24	8	1	2	35	45	53	63	22
	Nev. 8A	S	12	7			19	26	31	26	10
28	Nev. 20	N	53	45	2		100	135	162	113	95
	U. S. 50	S	111	60	2	1	174	234	280	277	168
	do	W	60	26	1	1	88	117	141	163	73
29	do	E	35	6	1	(x)	43	57	68	79	27
	do	W	35	10	1	(x)	47	62	75	88	33
	Nev. 20	SE	5	7			12	16	19	20	8
30	U. S. 50	E	840	58	7	28	933	1,222	1,466	1,150	828
	do	W	68	11	1	(x)	81	108	130	126	55
	C. R.	S	795	52	6	27	880	1,152	1,382	1,080	784
31	U. S. 50	SW. and NE	795	76	10	14	895	1,189	1,427	1,431	756
32	Nev. 7	NW. and SE	127	32	4	(x)	164	220	264	383	113
33	C. R.	N	22	5			27	36	44	37	16
	Nev. 14	E	27	7	1	(x)	36	47	57	49	25
	Nev. 7	W	73	10	1	(x)	85	113	136	201	64
	do	S	39	2		(x)	42	55	66	82	35
34	do	NW. and SE	67	15	1	(x)	84	112	134	173	45
35	Nev. 3	E	25	2	1	(x)	29	39	45	53	27
	do	NW	26	3	1	(x)	31	41	49	43	25
	C. R.	SW	4	1		(x)	6	7	8	13	3
36	Nev. 3	NW	78	2	1	(x)	82	109	131	198	78
	do	SE	99	6	1	(x)	107	143	172	215	87
	Nev. 8A	N	12	4			16	22	26	53	11
37	Nev. 3	N. and S	114	8	2	(x)	125	167	201	293	87
38	do	N. and S	101	8	2	(x)	112	150	180	209	82
39	Nev. 3	N	39	5		1	45	59	71	81	41
	Nev. 5	S	23	3		1	27	35	42	45	25
	Nev. 3	SW	17	2			19	26	31	36	16
40	do	NW	62	13	1	(x)	77	103	123	99	55
	do	SE	42	3	1	(x)	47	62	75	78	36
	Nev. 10	SW	18	6			24	32	39	44	18
41	U. S. 91	NE. and SW	167	33	3	2	205	274	329	320	205
42	do	NE	176	22	4	2	204	273	327	364	148
	do	SW	222	25	4	3	254	339	407	403	194
	Nev. 7	N	83	10	1		94	127	152	122	58
	Nev. 12	S	87	15	2		104	140	168	146	69
43	U. S. 91	NE. and SW	326	53	11	3	393	527	632	697	314
44	do	NE. and SW	497	71	11	5	584	782	938	765	510
45	do	NE	159	14	2	5	180	236	284	273	137
	do	SW	135	8	2	5	150	196	235	193	111
	C. R.	NW	41	10		(x)	52	69	83	81	43
	do	SE	24	8			32	43	52	42	32
46	U. S. 50	N	181	5		(x)	187	251	301	793	21
	do	S	203	6		1	210	282	339	742	32
	Nev. 19	E	42	2		(x)	45	59	71	144	9
47	Nev. 4	NE	41	7	12	(x)	61	81	97	99	45
	do	SW	64	15	12	(x)	92	123	147	141	67
	C. R.	N	26	13		(x)	40	53	63	65	24
48	Nev. 7	N	139	16	1	1	157	211	253	337	136
	do	S	118	16	1	(x)	136	182	219	318	120
	Nev. 25	E	157	20	1	2	180	240	288	448	163
	C. R.	W	18	7			25	34	41	56	
49	Nev. 7	NE and SW	64	26	1		91	123	147	198	71
50	U. S. 50	N	39	7	1	1	48	63	76	68	32
	do	S	41	7	1	1	50	66	79	92	35
	Nev. 2	E	7	3			10	14	16	19	6

TABLE 37.—*Motor-vehicle traffic in 1930 and forecast of future traffic at survey stations*—Continued

NEVADA—Continued

Station No.	Route No.	Direction from station	Average daily density—1930					Forecast		Maximum daily vehicles, 1930	Winter average, 1930
			Passenger cars	Trucks under 3 tons	Trucks 3 tons and over	Busses	Total motor vehicles	1935	1940		
73	Nev. 3	E. and W	23	6			29	39	47	37	15
74	Nev. 10	NE. and SW	16	5			21	28	34	33	15
75	Nev. 4	NE. and SW	19	11		(x)	31	41	49	36	19
71	Nev. 5	NW. and SE	22	4		3	29	35	42	44	22

NEW MEXICO

1	U. S. 366	N. and S	196	21	1	5	223	306	377	370	211
2	U. S. 80	N. and S	1,155	95	9	11	1,270	1,769	2,178	1,574	1,317
3	U. S. 85	N	514	38		4	556	776	955	787	594
	U. S. 80	W	864	50	3	8	925	1,288	1,586	1,261	953
	N. Mex. 3	E	146	12		(x)	159	222	273	236	160
4	U. S. 85	N	152	18		3	173	239	294	209	143
	do	S	148	16		3	167	230	284	217	141
	U. S. 180	W	57	6		(x)	64	89	109	86	64
5	U. S. 85	N	155	21		4	180	247	304	251	141
	do	S	171	24		4	199	274	337	265	152
	N. Mex. 52	E	55	9		(x)	65	90	111	80	51
6A	U. S. 85	S	214	26		4	244	337	415	343	172
	U. S. 70	W	124	17		(x)	142	198	244	179	111
6B	U. S. 85	N	184	20	2	22	228	289	356	243	179
	U. S. 70	NE	66	15		9	90	114	140	102	67
	U. S. 85	S	278	21		30	329	420	517	297	207
7	U. S. 70	NW	86	12		(x)	99	138	170	130	71
	do	NE	88	12		(x)	101	140	173	141	72
8	N. Mex. 12	SW	22	4			26	37	45	34	21
	U. S. 70	E. and W	59	12		(x)	72	100	123	118	46
9A	N. Mex. 11	NW	126	20		(x)	147	205	253	257	167
	U. S. 180	SW	238	25	1	(x)	265	371	457	630	241
	do	E	500	51	5	5	561	781	962	1,124	706
9B	N. Mex. 11	SE	308	25	1	6	340	469	578	469	309
	U. S. 180	W	580	48	5	7	640	889	1,095	1,061	605
10	do	NW	376	25	1	3	405	565	695	575	434
	U. S. 80	SW	322	19	1	4	346	481	592	381	314
11A	do	W	578	41	1	6	626	871	1,073	793	590
	N. Mex. 11	S	135	18		(x)	154	215	265	179	139
	N. Mex. 26	NE	94	12			106	149	183	156	99
11B	N. Mex. 11	NW	234	23	1	4	262	362	446	406	242
	do	S	290	30	1	4	325	451	555	519	291
	N. Mex. 2	N	160	32		2	194	270	332	419	148
12	U. S. 366	NE	268	46	6	5	325	450	554	421	293
	do	S	576	111	6	9	702	974	1,199	1,021	619
13	do	SW	366	73	6	9	454	625	770	571	407
	N. Mex. 18	S	398	112		5	515	717	882	835	474
	U. S. 70 and 366	E	971	142	6	14	1,133	1,572	1,936	1,312	1,109
14	U. S. 366	S	656	106	6	8	776	1,079	1,329	926	771
	U. S. 70	N	1,518	236	12	22	1,788	2,481	3,055	2,113	1,786
15	N. Mex. 18	N	518	132	4	5	659	919	1,131	987	638
	U. S. 70	W	792	128	2	5	927	1,295	1,595	1,382	855
	N. Mex. 20	NW	73	14		2	89	122	151	132	73
	U. S. 70	Fort Sumner, E	318	67	1	2	388	542	668	659	302
16	do	W	116	26		(x)	143	200	246	206	116
	N. Mex. 20	S	46	14		(x)	61	84	104	77	53
	U. S. 70	Clovis, E	390	100	2	10	502	691	851	932	369
	U. S. 54	NE	98	14		(x)	113	157	194	144	94
17A	U. S. 70	E	170	26	1	3	200	277	341	252	174
	do	W	263	40	1	4	308	427	526	374	249
	N. Mex. 3	S	71	16		1	88	122	151	119	77
17B	U. S. 70	W	191	27	1	3	222	308	379	319	168
	do	E	253	41	1	5	300	414	510	403	222
	U. S. 566	NW	96	24		3	123	169	208	185	104
18	U. S. 366	E	271	50	2	10	333	454	559	577	283
	do	W	218	34	2	9	263	357	439	445	228
	N. Mex. 2	S	1,043	141	5	7	1,196	1,671	2,057	1,551	1,143
19	N. Mex. 13	E	546	88	3	5	642	894	1,102	935	570
	U. S. 366	W	387	61	2	8	458	632	779	695	448
	N. Mex. 2	N	571	81	5	7	664	923	1,137	788	683
20	do	S	657	65	5	7	734	1,021	1,258	986	708
	N. Mex. 34	E	358	43		1	402	563	694	477	359
	do	W	173	26		1	200	280	344	273	208
	N. Mex. 2	N	944	126	6	10	1,086	1,512	1,861	1,544	1,011
21	do	S	665	94	5	4	768	1,073	1,322	1,282	795
	N. Mex. 18	SW	258	24	1	6	289	398	490	584	187
22	N. Mex. 2	N	556	61	5	6	628	874	1,076	1,199	529
	N. Mex. 18	E	288	43	2	3	336	468	576	490	294
	U. S. 85	N	454	40	7	12	513	704	867	654	416
23	do	S	679	46	3	11	739	1,023	1,259	1,361	613
	U. S. 385	E	304	27	1	3	335	466	574	454	222
	U. S. 64	NE	28	4		(x)	33	45	55	41	26
24	U. S. 385	E	88	11	1	4	104	140	173	122	91
	do	W	98	13	1	3	115	157	194	125	99
	do	SE	276	34	2	4	316	438	540	417	310
25	N. Mex. 58	W	201	41	3	(x)	246	344	424	354	231
	N. Mex. 18	N	55	8		(x)	64	89	109	80	75
26	U. S. 54	NE	78	8		(x)	87	121	149	106	99
	do	SW	76	8		(x)	85	118	145	91	86
	do	SW	160	18		1	179	250	308	246	158
27	N. Mex. 39	N	88	20		5	113	152	187	173	128
	U. S. 54	NE	83	10		(x)	94	131	161	116	90
	do	S	159	31		5	195	267	329	270	197
	N. Mex. 18	S	185	27	1	2	215	299	368	472	208
28	U. S. 66 and 54	W	377	24	2	5	408	566	697	808	303
	U. S. 66	E	294	32		4	330	458	564	485	317
	do	NW	126	15	1	4	146	200	246	221	143
29	U. S. 54	SW	104	21	1	(x)	127	177	218	199	122
	U. S. 66 and 54	E	222	37	2	4	265	367	452	416	241
	Local road	S	15	5			20	28	35	31	21

TABLE 37.—*Motor-vehicle traffic in 1930 and forecast of future traffic at survey stations*—Continued

NEW MEXICO—Continued

Station No.	Route No.	Direction from station	Average daily density—1930					Forecast		Maximum daily vehicles, 1930	Winter average, 1930
			Passenger cars	Trucks under 3 tons	Trucks 3 tons and over	Busses	Total motor vehicles	1935	1940		
30	U. S. 85	NE	418	37	4	8	467	645	794	716	435
	U. S. 66 and 85	W	344	27	3	6	380	525	647	591	344
	U. S. 66	SE	100	13	1	2	116	160	197	187	114
31	N. Mex. 3	N	156	27	3		186	261	322	298	203
	U. S. 85	NE	324	20	2	6	352	486	599	375	331
	do	SW	468	42	6	6	522	725	893	678	539
32	do	N	293	19	3	6	321	443	545	373	268
	do	S	322	28	2	7	359	495	609	414	298
	N. Mex. 58	W	47	12		(x)	60	83	102	82	54
33	do	E	65	14		(x)	80	111	137	107	73
	do	W	102	22		(x)	125	174	215	165	107
	N. Mex. 39	S	52	11		(x)	64	89	109	89	55
34	U. S. 85	N	406	29	3	10	448	615	758	650	363
	do	S	284	17	3	5	309	427	526	421	257
	U. S. 485	W	129	12		5	146	198	244	226	113
35A	U. S. 66 and 85	N	1,676	244	9	22	1,951	2,710	3,337	2,528	1,801
	U. S. 470	E	866	105	4	6	981	1,370	1,687	2,674	852
	U. S. 85 and 66	S	2,127	292	11	33	2,463	3,414	4,204	3,140	2,245
35B	N. Mex. 6	W	926	151	5	1	1,083	1,520	1,872	2,356	1,083
	U. S. 85 and 66	E	3,026	454	16	34	3,530	4,912	6,048	5,457	3,082
	do	N	563	65	2	17	647	885	1,090	968	535
36	N. Mex. 44	NW	99	27	1	(x)	128	178	220	296	116
	U. S. 85 and 66	Bernalillo, S	692	90	4	18	804	1,118	1,360	1,374	607
	do	Albuquerque, S	724	89	4	22	839	1,148	1,413	1,549	690
	U. S. 485	N	382	82	4	6	474	658	810	616	450
37	U. S. 85 and 66	SW	474	44	2	15	535	731	900	615	437
	N. Mex. 10	S	96	21		(x)	118	164	202	242	111
	U. S. 85 and 66	NE	552	56	2	15	625	857	1,055	940	502
	N. Mex. 2	NW	156	45			201	282	348	227	180
38	U. S. 485	S	346	77	4	6	433	600	739	646	353
	do	NE	377	107	4	4	492	686	844	674	435
	M. Mex. 2	W	354	101	4	7	466	645	794	648	370
	U. S. 85 and 66	N	495	74	2	20	591	802	988	802	482
39	do	SE	398	42	2	8	450	621	765	640	358
	N. Mex. 2	S	117	36		13	166	215	265	246	156
	N. Mex. 3	N	130	28		1	159	222	273	298	143
40	U. S. 485	E	164	37		2	203	282	348	290	139
	do	SW	302	66	4	5	377	523	644	568	278
	N. Mex. 41	N	48	9		2	59	80	99	75	56
41	U. S. 470	S	154	26	2	4	186	256	315	220	178
	do	W	138	21	2	4	165	226	279	196	155
	U. S. 70	W	217	32	2	3	254	353	434	319	220
42	N. Mex. 2	NW	60	18		(x)	79	110	135	104	70
	N. Mex. 23	S	39	10		(x)	50	69	85	67	45
	U. S. 70	E	264	53	1	4	322	447	550	376	269
	U. S. 470	N	136	22	1	3	162	223	275	227	146
43	U. S. 70	E	222	38	2	4	266	368	453	357	230
	do	W	128	23	1	(x)	153	214	263	204	134
	do	E	113	27	1	(x)	142	198	244	167	139
44	do	SW	60	9		(x)	70	97	119	91	68
	N. Mex. 52	NW	54	18	1		73	103	126	89	75
	U. S. 66	E	302	29	1	7	339	466	574	525	239
45	do	W	305	29	1	6	341	471	580	525	234
	N. Mex. 6	NE	4	2			6	8	10	9	9
	U. S. 85 and 66	N	677	73	5	11	766	1,061	1,306	1,040	647
46	U. S. 85	S	341	52	4	6	403	558	687	610	367
	U. S. 66	W	414	60	4	6	484	672	827	615	329
	U. S. 85	N	145	32		4	181	249	306	226	191
47	do	S	146	31		4	181	249	306	225	189
	U. S. 566	E	40	11		(x)	52	72	88	67	41
	N. Mex. 11	NW	13	5		(x)	19	25	31	24	16
48	do	S	24	7			31	44	54	61	25
	N. Mex. 12	NE	26	8		(x)	35	48	59	50	27
49A	U. S. 366	NE	371	103	5	7	486	673	829	772	365
	do	S	395	35	2	7	439	607	747	815	352
	N. Mex. 3	N	89	15			104	146	180	150	99
49B	N. Mex. 52	W	32	6			38	53	66	78	39
	N. Mex. 3	S	117	22			139	195	240	200	148
	U. S. 566	E	159	24		1	184	257	317	295	163
50A	N. Mex. 3	SW	108	15		(x)	124	173	213	257	93
	U. S. 566	W	51	7			58	81	100	219	20
	N. Mex. 3	NE	135	28		(x)	164	229	282	240	136
50B	U. S. 566	S	211	33		(x)	245	343	422	493	148
	N. Mex. 3	NE	58	14		(x)	73	101	125	156	48
	do	SW	67	12		(x)	80	111	137	156	58
51	N. Mex. 23	NW	26	4			30	42	52	40	24
	U. S. 70	NW	126	26		3	155	214	263	286	118
	do	E	71	17		(x)	89	124	152	141	66
52	N. M. 2	S	57	9		3	69	93	114	136	52
	N. M. 20	N	27	11			38	53	66	71	31
	N. M. 2	S	86	30		3	119	163	201	197	109
53	do	NW	59	23		3	85	115	142	177	86
	U. S. 666	N	52	13	1	(x)	67	93	114	86	58
	do	S	98	28	2	3	131	181	221	187	103
54	N. M. 19	E	96	31	2	3	132	181	223	166	112
55A	U. S. 66	E	740	71	5	6	822	1,146	1,412	1,290	605
55B	do	W	478	50	4	6	538	747	920	998	367
55C	U. S. 666	N	226	60	4	3	293	407	502	355	231
55D	N. M. 36	S	107	48	3		158	222	273	248	105
	U. S. 66	E	251	19	1	6	277	381	469	493	136
56	do	W	300	32	1	6	339	468	576	542	199
	N. M. 35	N	38	13		(x)	52	72	88	82	42
	N. M. 2	E	92	28		2	122	169	208	222	120
57	do	SE	53	28			81	114	140	143	63
	N. M. 41	SW	53	6		2	61	83	102	137	70

TABLE 37.—*Motor-vehicle traffic in 1930 and forecast of future traffic at survey stations*—Continued

OREGON

Station No.	Route No.	Direction from station	Average daily density—1930					Forecast		Maximum daily vehicles, 1930	Winter average, 1930
			Passenger cars	Trucks under 3 tons	Trucks 3 tons and over	Busses	Total motor vehicles	1935	1940		
1	Oreg. 32	W	1,112	88	18	9	1,227	1,559	1,839	2,598	971
	Oreg. 3	N	2,253	162	32	20	2,467	3,132	3,695	4,465	2,071
	do	S	1,198	80	16	11	1,305	1,656	1,954	1,980	1,163
	do	W	2,288	140	36	27	2,491	3,154	3,721	3,792	2,001
2	Oreg. 29	N	776	58	15	14	863	1,087	1,282	1,284	749
	Oreg. 3	E	1,731	91	23	13	1,858	2,362	2,786	2,934	1,445
3	Oreg. 29	W	3,112	234	62	66	3,474	4,362	5,146	4,827	2,927
	do	N	1,428	114	30	9	1,581	2,012	2,374	2,338	1,649
	Oreg. 40	E	1,790	132	35	59	2,016	2,505	2,955	3,484	1,406
4	U. S. 30	E. and W	1,669	88	40	32	1,829	2,300	2,713	3,556	1,334
	do	W	1,898	211	27	22	2,158	2,734	3,225	3,741	1,594
5	do	E	1,154	112	14	21	1,301	1,638	1,933	2,545	888
	Oreg. 26	S	864	113	15	2	994	1,270	1,498	1,621	757
	U. S. 30	W	1,160	88	40	25	1,313	1,649	1,945	2,540	753
6	C. R	N	76	9	1	5	91	111	130	194	54
	U. S. 30	E	1,146	96	40	29	1,311	1,641	1,936	2,494	747
	U. S. 99	N	9,156	628	98	109	9,991	12,649	14,922	15,631	8,525
7	do	S	9,286	620	97	109	10,112	12,804	15,105	16,270	8,508
	Road to beach	W	307	7	1	----------	315	403	476	1,607	28
	Oreg. 26	W	1,010	99	9	10	1,128	1,431	1,688	3,520	934
8	C. R	N	121	13	1	2	137	173	204	316	105
	Oreg. 26	E	885	88	8	9	990	1,256	1,481	2,839	781
	C. R	W	546	57	5	2	610	778	918	913	505
9	U. S. 99	N	2,923	236	56	100	3,315	4,115	4,855	4,702	2,671
	do	S	2,450	188	53	98	2,789	3,447	4,063	3,927	2,235
	River Road	N	2,008	172	28	(x)	2,209	2,826	3,334	3,632	1,799
10	82d St	N	2,452	217	35	5	2,709	3,461	4,083	5,665	2,182
	East Road	S	3,984	369	59	5	4,417	5,647	6,662	8,273	3,612
	U. S. 99	N	2,566	183	61	52	2,862	3,597	4,243	4,818	2,239
11	C. R	E	103	12	----------	(x)	116	147	174	174	90
	U. S. 99	S	2,580	190	61	51	2,882	3,624	4,275	4,972	2,305
	Oreg. 30	W	744	67	10	12	833	1,051	1,240	1,486	660
12	Oreg. 3	N	843	68	14	11	936	1,184	1,397	1,804	620
	Oreg. 30	E	1,141	109	23	13	1,286	1,629	1,922	2,309	1,022
	Oreg. 3	S	898	54	18	10	980	1,242	1,465	1,627	781
101	U. S. 30	N. and S	1,756	72	27	29	1,884	2,374	2,801	4,508	1,559
102	do	E. and W	742	36	6	13	797	1,003	1,184	2,059	499
	C. R	W	366	30	8	15	419	517	610	653	306
103	U. S. 101	N	1,468	72	21	16	1,577	1,998	2,357	3,128	997
	do	S	1,133	47	13	2	1,195	1,527	1,801	2,661	694
	C. R	W	303	16	2	5	326	411	485	1,885	73
104	U. S. 101	N	537	35	10	9	591	745	879	2,715	252
	do	S	285	22	9	4	320	404	477	1,145	182
	do	N	723	54	12	8	797	1,010	1,191	1,704	570
105	C. R	E	114	24	2	3	143	179	211	215	138
	U. S. 101	S	696	48	12	7	763	968	1,142	1,690	551
	do	N	500	48	10	8	566	714	843	855	470
106	Oreg. 32	E	576	52	11	9	648	818	965	1,198	548
	U. S. 101	S	468	44	10	4	526	668	788	876	452
	C. R	W	254	16	6	(x)	277	353	417	622	197
107	Oreg. 32	N	536	47	15	7	605	765	903	1,015	441
	do	E	726	60	20	8	814	1,032	1,217	1,499	578
	U. S. 101	N	248	26	8	3	285	361	426	669	204
108	C. R	E	154	22	6	----------	182	233	275	749	116
	U. S. 101	S	336	23	7	3	369	468	553	986	242
109	do	N. and S	427	40	4	4	475	603	711	1,888	235
110	Oreg. 33	E. and W	269	15	5	8	297	370	436	681	213
	do	W	558	51	9	6	624	791	933	1,197	492
111	do	E	896	99	19	9	1,023	1,298	1,531	2,066	788
	Oreg. 27	S	372	64	12	3	451	573	676	892	342
112	do	E. and W	224	27	11	4	266	335	396	578	186
113	Oreg. 3	N. and S	1,468	159	21	21	1,669	2,109	2,488	2,707	1,282
114	U. S. 28	E. and W	386	45	6	2	439	559	660	1,050	330
115	do	E. and W	145	24	3	3	175	220	260	440	88
	U. S. 99	N	2,030	133	31	17	2,211	2,828	3,313	3,725	1,755
116	Oreg. 18	E	442	41	3	----------	486	622	734	835	411
	U. S. 99	S	1,703	109	25	17	1,854	2,351	2,774	3,147	1,486
	do	N	1,328	84	26	19	1,457	1,841	2,171	2,385	1,188
117	do	S	1,102	56	22	17	1,197	1,510	1,782	2,027	917
	Umpqua Road	W	209	25	3	2	239	303	358	375	216
	Oreg. 35	W	309	36	7	5	357	451	532	637	290
118	U. S. 99	N	1,252	104	21	18	1,395	1,763	2,079	2,076	1,118
	do	S	1,004	78	16	14	1,112	1,405	1,658	1,765	879
	do	N	1,220	97	25	21	1,363	1,718	2,026	1,692	1,101
119	do	S	1,111	84	26	18	1,239	1,563	1,844	1,636	965
	Reedsport Road	W	148	34	3	4	189	237	279	262	148
	Oreg. 3	W	1,300	81	27	17	1,425	1,802	2,126	2,141	1,218
120	U. S. 99	N	1,272	69	23	11	1,375	1,746	2,060	2,148	1,047
	do	S	2,310	130	44	26	2,510	3,180	3,902	3,870	2,087
	Oreg. 16	W	556	93	13	11	673	847	1,000	825	530
121	C. R	N	214	39	5	2	260	330	390	342	228
	Oreg. 16	E	438	65	9	9	521	655	773	736	415
122	U. S. 99	N. and S	1,670	130	28	35	1,863	2,340	2,760	2,978	1,528
123	Oreg. 31	E. and W	868	75	19	34	996	1,231	1,453	1,595	817
	C. R	W	156	19	3	(x)	179	228	269	306	162
124	Oreg. 3	N	931	70	20	12	1,033	1,307	1,542	1,708	887
	do	S	813	53	19	11	896	1,133	1,336	1,577	775
201	U. S. 99	N. and S	855	42	10	13	920	1,161	1,370	1,857	728
	U. S. 199	N	431	24	14	5	474	600	708	1,356	264
202	Oreg. 38	E	150	10	5	1	166	211	249	520	85
	U. S. 199	S	395	23	13	5	436	552	651	1,344	218
	do	W	1,699	129	21	11	1,860	2,367	2,792	2,871	1,471
203	U. S. 99	N	3,120	211	33	25	3,389	4,290	5,080	4,586	2,823
	do	E	1,628	94	15	14	1,751	2,223	2,623	2,349	1,499
	Oreg. 22	W	232	17	5	(x)	255	325	384	917	128
204	do	E	228	20	5	(x)	254	324	382	920	141
	C. R	S	31	12	----------	----------	43	55	65	86	34
	U. S. 99	N	910	71	15	18	1,014	1,275	1,504	1,612	869
205	U. S. 97	E	354	43	9	8	414	520	613	678	355
	U. S. 99	S	700	35	7	10	752	950	1,120	1,104	631

TABLE 37.—*Motor-vehicle traffic in 1930 and forecast of future traffic at survey stations*—Continued

OREGON—Continued

Station No.	Route No.	Direction from station	Average daily density—1930					Forecast		Maximum daily vehicles, 1930	Winter average, 1930
			Passenger cars	Trucks under 3 tons	Trucks 3 tons and over	Busses	Total motor vehicles	1935	1940		
206	Oreg. 4	N	1,164	149	11	8	1,332	1,695	1,999	1,824	1,296
	Oreg. 20	E	522	62	5	7	596	754	889	1,003	508
	Oreg. 4	S	690	100	7	2	799	1,020	1,203	948	853
207	Oreg. 22	W	222	19	5	10	256	315	371	837	143
	U. S. 97	N	190	11	3	4	208	261	308	426	136
	do	S	338	23	7	6	374	471	556	1,067	224
208	do	NE	200	9	1	5	215	269	317	484	143
	do	SW	207	8	1	5	221	276	326	476	149
	Oreg. 18	W	20	2			22	28	33	51	17
209	Oreg. 7	E	384	37	3	5	429	543	640	721	414
	U. S. 97	N. and S	1,282	73	6	7	1,368	1,742	2,055	4,249	1,117
210	U. S. 28	W	240	20	2	(x)	263	335	396	576	170
	do	E	84	9	1	(x)	95	120	142	215	58
	Oreg. 17	S	158	10	1		169	216	255	378	112
211	U. S. 28	E. and W	200	20	1	(x)	222	283	334	303	175
212	U. S. 97	N	270	24	5	6	305	383	451	523	220
	do	S	358	42	6	5	411	520	613	537	319
	C. R	NW	114	21	1		136	174	205	356	103
213	Oreg. 44	W	150	28	1	1	180	229	270	671	80
	Oreg. 4	N	196	25	4	2	227	288	340	552	168
	do	S	320	51	5	3	379	481	568	1,102	224
214	U. S. 30	W	1,429	143	25	20	1,617	2,044	2,411	2,328	1,208
	do	E	995	78	13	19	1,105	1,390	1,640	1,587	768
	Oreg. 4	S	456	74	8	2	540	689	812	914	459
215	U. S. 30	W	778	49	11	18	856	1,073	1,265	1,316	560
	do	E	697	40	9	12	758	955	1,126	1,064	478
	U. S. 97	S	196	18	4	6	224	279	329	402	165
216	do	N. and S	226	37	3	5	271	340	402	441	216
217	Oreg. 4	N	168	12	5	(x)	186	237	279	593	97
	U. S. 97	E	86	8	3	6	103	124	146	275	72
	do	S	238	16	6	6	266	333	393	791	149
218W	do	N. and S	632	46	7	6	691	877	1,034	1,237	564
218E	U. S. 28	E. and W	290	35	3	4	332	420	495	700	275
219	Oreg. 17	W	301	16	2	2	321	408	482	571	223
	U. S. 97	N	577	33	7	10	627	790	932	1,050	505
	do	S	864	47	11	12	934	1,180	1,392	1,584	737
220	do	N	246	16	1	5	268	337	397	586	159
	Oreg. 19	E	33	4		(x)	38	47	56	47	32
	U. S. 97	S	214	13	1	4	232	292	344	567	127
221	do	NE	210	15	1	4	230	289	341	337	160
	do	SW	198	13	1	4	216	271	320	340	166
	Crater Lake Road	NW	30	2			32	41	48	82	13
	C. R	SE	12	3		(x)	16	19	23	64	14
222	U. S. 97	N. and S	1,676	164	20	28	1,888	2,381	2,809	2,493	1,803
	do	E	573	58	10	9	650	820	968	1,217	532
223	do	W	516	54	10	9	589	742	876	1,216	462
	C. R	S	68	11	1	1	81	102	121	255	72
224	U. S. 99	N. and S	2,744	227	30	19	3,020	3,841	4,532	5,048	2,716
301	U. S. 30	W	568	35	5	15	623	778	918	1,056	544
	do	E	518	30	5	13	566	708	835	969	500
	Oreg. 8	S	79	7	1	3	90	111	131	127	93
302	do	E. and W	142	15	1	2	160	202	239	260	138
	do	W	66	19	1		86	110	130	120	73
303	do	E	108	33	1		142	182	214	213	112
	Oreg. 28	S	48	18			66	84	100	121	48
304	U. S. 30	E. and W	606	51	7	13	677	850	1,003	971	520
	C. R	E	134	19	1	(x)	155	197	233	315	162
305	Oreg. 8	N	1,764	172	8	10	1,954	2,488	2,935	3,209	1,527
	do	S	1,950	197	10	11	2,168	2,761	3,257	3,209	1,698
	C. R	W	409	52	2	(x)	464	593	699	743	318
306	Oreg. 8	N	817	65	5	9	896	1,135	1,339	1,894	815
	do	S	864	74	6	9	953	1,208	1,425	1,894	818
	C. R	W	100	13	1		114	146	172	192	57
307	U. S. 30	N. & S	462	38	10	10	520	653	770	994	331
308	Oreg. 10	E. and W	164	18	1	4	187	234	216	384	139
309	do	SE. and NW	322	29	2	5	358	452	533	538	306
310	U. S. 30	N. and S	1,047	78	11	11	1,147	1,454	1,715	1,990	851
311	do	N. and S	744	49	6	10	809	1,023	1,206	1,332	554
312	do	N. and S	280	18	3	8	309	385	455	447	186
	do	W	376	22	3	9	410	513	606	686	268
313	U. S. 30N	N	412	34	5	9	460	577	681	690	362
	U. S. 30	S	440	45	6	2	493	628	741	970	347
314	do	E. and W	1,264	100	9	16	1,389	1,757	2,073	1,748	1,125
315	U. S. 28	W	358	52	3	2	415	529	624	860	326
	do	N	698	96	6	3	803	1,024	1,208	1,316	673
	Oreg. 6	S	446	49	3	(x)	499	637	752	626	444
316	U. S. 28	N	300	37	3	(x)	341	435	513	659	284
	Oreg. 7	W	555	53	4	4	616	783	924	1,035	478
	U. S. 28	E	500	39	3	3	545	694	818	771	478
	do	W	103	13	1		117	150	177	246	70
317	U. S. 28	SE	126	15	1		142	182	214	314	92
	C. R	NW	34	4			38	49	57	59	36
318	U. S. 28	N	94	7	1	1	103	131	154	210	63
	Oreg. 13	E	52	4		2	58	72	85	122	41
	U. S. 28	S	90	7	1	1	99	125	148	141	75
319	do	W	581	37	5	3	626	797	941	1,209	488
	U. S. 28	E	398	26	3	2	429	547	645	904	345
	C. R	S	288	18	3	1	310	396	467	568	225
320	U. S. 28	W	45	3	1		49	63	74	84	21
	Oreg. 5	N	92	12	2	2	108	136	160	185	58
	U. S. 28	E	128	14	2	2	146	184	217	270	75
321	do	E	80	19	3	2	104	131	154	149	78
	do	SW	35	4	1		40	51	60	125	37
	Oreg. 5	NW	83	17	3	2	105	132	156	159	76
322	do	N. and S	186	35	3	3	227	287	338	388	183
323	do	N. and S	186	23	3	3	215	271	320	392	186

TABLE 37.—*Motor-vehicle traffic in 1930 and forecast of future traffic at survey stations*—Continued

OREGON—Continued

Station No.	Route No.	Direction from station	Average daily density—1930					Forecast		Maximum daily vehicles, 1930	Winter average, 1930
			Passenger cars	Trucks under 3 tons	Trucks 3 tons and over	Busses	Total motor vehicles	1935	1940		
324	U. S. 30	W	810	80	8	19	917	1,149	1,356	1,482	700
	do	E	656	49	5	16	726	909	1,072	978	661
	Oreg. 5	S	244	42	4	4	294	371	438	392	237
401	U. S. 101	N. and S	166	9	4	4	183	229	270	330	163
402	do	N. and S	418	61	9	7	495	625	737	915	454
403	do	N. and S	14	9			23	29	35	90	18
404	do	N. and S	9	7			16	20	24	35	14
405	do	N. and S	21	9			30	38	45	107	21
406A	do	N. and S	15	8			23	29	35	76	15
406B	do	N. and S	55	24	1		80	102	121	130	35
407	Longview Ferry	N. and S	289	17	2	11	319	394	465	423	92
408	Toll Bridge	N. and S	142	37	2	(x)	182	232	273	293	154
409	Arlington Ferry	N. and S	65	6		(x)	72	91	107	246	75
410	Umatilla Ferry	N. and S	60	7	1	4	72	87	103	107	44
411	Oreg. 35	W	609	86	17	13	725	911	1,075	1,405	722
	do	E	473	68	15	6	562	712	840	927	512
	C. R.	S	201	51	5	7	264	329	388	607	258
412	U. S. 101	N. and S	632	67	15	8	722	914	1,078	1,313	622
413	do	N. and S	456	98	17	5	576	731	862	1,068	571
414	do	N. and S	162	22	14	6	204	253	299	424	158
415	do	N. and S	245	33	8	4	290	366	432	572	254
416	Oreg. 20	E. and W	138	15	3	4	160	200	236	389	149
417A	Oreg. 19	N. and S	144	50	5	1	200	255	300	291	198
417B	Oreg. 20	E. and W	229	31	3	5	268	343	397	402	244
418	Oreg. 19	N. and S	173	30	3	(x)	207	264	311	322	162

UTAH

1	U. S. 91	N. and S	914	170	15	19	1,118	1,420	1,719	1,629	907
2	do	N. and S	2,248	336	8	21	2,613	3,349	4,054	4,238	2,121
3	U. S. 91 and 30S	N. and S	1,624	298	12	21	1,955	2,499	3,025	2,959	1,683
4	U. S. 91	N. and S	3,558	462	46	26	4,092	5,253	6,359	7,081	3,242
5	U. S. 30S	E	318	48	6	5	377	481	582	630	286
	do	W	242	42	6	5	295	375	454	375	234
	U. S. 530	S	406	62	8	5	481	615	744	825	323
	U. S. 40	S	376	48	6	6	436	556	673	653	302
6	do	N	386	48	6	7	447	568	688	723	290
	U. S. 530	E	290	37	5	4	336	429	519	542	212
7	U. S. 40	N. and S	582	74	6	3	665	855	1,035	1,017	572
8	U. S. 91	N	1,171	225	25	9	1,430	1,836	2,222	2,854	1,129
	do	S	1,127	219	25	9	1,380	1,771	2,144	2,390	1,106
	Utah 52	E	286	85	3	3	377	483	585	958	270
9	U. S. 91	N	2,694	362	44	56	3,156	4,005	4,848	4,989	2,702
	do	S	2,420	351	43	51	2,865	3,636	4,401	3,624	2,670
	Utah 48	W	2,114	266	32	55	2,467	3,116	3,772	3,255	2,275
10	U. S. 91	N. and S	6,418	884	90	51	7,443	9,550	11,561	10,263	5,876
11	do	N. and S	4,654	704	78	48	5,484	7,023	8,502	10,920	4,172
12	U. S. 40	N	401	66	8	8	483	614	743	691	381
	Utah 36	S	301	57	7	5	370	472	571	415	346
	U. S. 40	W	265	45	4	6	320	406	491	388	274
13	U. S. 91	N	514	145	12	9	680	867	1,049	899	640
	Utah 26	W	420	59	5	7	491	625	757	733	419
	U. S. 91	S	527	118	10	9	664	846	1,024	911	536
14	do	N	449	67	6	6	528	711	889	836	426
	do	S	446	70	4	6	526	708	886	757	423
	U. S. 189	E	224	51	3	2	280	379	473	397	235
15	U. S. 91	N	102	15	1	5	123	161	201	147	92
	do	S	102	15	1	5	123	161	201	169	101
	Utah 26	W	38	8	1	1	48	64	80	78	48
16	U. S. 91	N	90	13	1	4	108	142	177	152	72
	do	S	94	13	1	4	112	147	184	147	81
	Utah 13	E	32	9	1	(x)	43	57	72	59	34
17	U. S. 91	N. and S	384	77	5	10	476	635	794	621	361
18	do	N	116	28	3	5	152	200	250	228	100
	do	S	120	25	3	5	153	202	252	211	116
	Utah 15	SE	95	28	3	4	130	172	215	167	96
19	U. S 89	N	52	11	2	2	67	89	111	93	38
	do	S	48	11	1	1	61	82	102	97	36
	Utah 15	W	55	8	1	2	66	87	109	176	18
20	U. S. 89	N	42	8	2	2	54	71	89	108	26
	do	S	36	8	2	2	48	63	78	96	24
	Utah 14	W	20	5	1	2	28	35	44	80	13
21	U. S. 89	N	56	15	2	(x)	74	99	124	106	56
	do	S	55	16	2	(x)	74	99	124	88	61
	Utah 22	E	32	14	2	(x)	49	65	82	54	44
22	U. S. 89	N	107	13	3	2	125	168	209	488	76
	do	S	94	13	3	1	111	150	187	356	69
	Utah 13	W	74	10	1	1	86	116	145	397	49
23	U. S. 89	NE	141	22	4	2	169	227	284	215	127
	do	S	130	20	4	2	156	210	262	185	127
	Utah 28	W	121	20	4	(x)	146	197	247	182	116
24	U. S. 89	N	90	15	3	2	110	147	184	180	91
	do	S	95	16	3	2	116	155	194	160	101
	U. S. 189	NW	80	15	3	3	101	133	167	164	74
25	U. S. 91	N. and S	1,678	214	15	15	1,922	2,464	2,983	3,020	1,307
26	Utah 2	E. and W	558	36	2		596	812	932	1,405	125
27	U. S. 30S	E. and W	831	226	10	3	1,070	1,379	1,817	1,800	849
28	U. S. 91	E. and W	976	78	8	14	1,076	1,372	1,661	1,758	553
29	U. S. 91 and 30S	N. and S	1,651	260	10	13	1,934	2,482	3,004	4,570	1,905
30	U. S. 30S	N. and S	931	83	8	6	1,028	1,320	1,598	2,690	523
31	Utah 39	E. and W	727	123	5	2	857	1,105	1,337	3,820	646
32	Utah 7	N. and S	580	45	4	3	632	813	984	1,235	533
33	U. S. 40	E. and W	226	39	3	1	269	346	419	470	209
34	U. S. 91	N. and S	3,312	391	30	10	3,743	4,823	5,838	13,680	2,914
35	Utah 7	N	329	45	4	(x)	379	488	591	1,625	305
	do	S	230	24	3	(x)	258	332	402	742	199
	Utah 52	W	206	40	3	(x)	250	322	389	588	190

TABLE 37.—*Motor-vehicle traffic in 1930 and forecast of future traffic at survey stations*—Continued

UTAH—Continued

Station No.	Route No.	Direction from station	Average daily density—1930					Forecast		Maximum daily vehicles, 1930	Winter average, 1930
			Passenger cars	Trucks under 3 tons	Trucks 3 tons and over	Busses	Total motor vehicles	1935	1940		
36	U. S. 40	E. and W	2,551	353	40	14	2,958	3,804	4,604	4,870	2,393
37	do	E. and W	2,013	132	14	17	2,176	2,789	3,377	4,740	1,372
38	Utah 3	N. and S	91	14	3		108	140	169	235	87
39	do	N	49	16	1	(x)	67	85	103	241	56
	do	S	51	13	1		65	84	102	201	57
40	Utah 2	W	47	18	1		66	85	103	185	46
41	U. S. 30S	E. and W	350	70	5	1	426	579	724	895	326
42	do	E. and W	110	15			125	170	213	212	104
43	U. S. 40	E. and W	80	11	1	2	94	125	157	309	81
44	Utah 41	N. and S	215	48	4	3	270	364	455	331	172
	U. S. 91	E	202	38	4	3	245	330	412	548	180
	do	W	164	40	2	4	210	281	351	351	149
	Utah 28	S	205	41	4	1	251	330	426	432	165
45	U. S. 91	N	97	9	1	2	109	146	182	323	105
	do	S	136	8	1	3	148	197	247	251	138
	Utah 21	W	44	4	1	(x)	50	67	83	170	44
46	U. S. 91	N. and S	648	113	5	7	773	1,043	1,304	1,145	620
47	Utah 14	E. and W	109	25	1	(x)	136	184	230	428	93
48	U. S. 91	E. and W	142	14	2	4	162	215	269	314	162
49	U. S. 89	N. and S	220	30	1	3	254	342	427	407	165
50	do	N	35	13	2	(x)	51	68	85	124	36
	do	S	22	11	2	1	36	48	60	69	33
	Utah 12	E	35	9	2	(x)	47	63	78	75	30
51	U. S. 89	N	197	33	2	1	233	316	395	477	208
	do	S	177	34	2	1	214	290	363	368	192
	Utah 24	SE	61	12	1	(x)	75	101	126	153	64
52	Utah 10	E. and W	68	22			90	123	153	266	68
53	Utah 26	N. and S	227	32	3	2	264	357	446	384	242
54	Utah 27	E. and W	36	8	1		45	61	77	88	56
55	Utah 21	E. and W	70	10	1		81	110	138	116	69
56	U. S. 50 and 89	S	160	16	2	2	180	230	278	277	97
	do	W	89	6	1	(x)	97	124	150	225	67
	Utah 8	N	92	14	2		108	140	169	271	89
57	U. S. 50 and 89	N	120	13	2		135	174	211	239	83
	U. S. 89	S	25	8		(x)	34	43	52	66	17
	U. S. 50	E	109	15	2	(x)	127	163	197	183	75
58	U. S. 40	N	88	33	3	1	125	159	211	383	116
	do	S	84	30	3	1	118	118	199	343	101
	Utah 33	W	54	30	3	(x)	88	169	148	107	77
59	U. S. 40	N	14	4	1		19	26	32	36	18
	Utah 45	S	5	4			9	12	15	24	7
	U. S. 40	E	16	5	1		22	35	37	33	16
60	U. S. 50	N	631	91	10	12	744	659	1,247	1,350	624
	do	S	692	153	10	15	870	1,165	1,456	1,393	821
	Utah 33	E	389	90	5	8	492	659	824	768	356
61	U. S. 50	E. and W	1,687	321	10	19	2,037	2,749	3,437	3,095	1,779
62	do	E. and W	181	46	3	3	233	313	392	518	207
63	do	N	31	16	1	1	49	65	82	94	43
	U. S. 450	S	38	31	2	1	72	97	121	131	65
	U. S. 50	W	39	18	1	(x)	59	79	99	104	52
64	do	E. and W	39	9	1	(x)	50	67	83	124	45
65	U. S. 450	N	29	8	1	(x)	39	52	65	85	20
	Utah 47	S	20	6	1	(x)	28	37	46	59	20
	U. S. 450	E	16	6			22	30	37	52	16
66	Utah 10	N. and S	631	131	5	4	771	1,045	1,306	1,015	705

WASHINGTON

1	U. S. 99	N	4,284	310	98	105	4,797	6,100	7,202	7,461	3,185
	do	S	3,998	279	89	92	4,458	5,676	6,702	6,742	3,113
	C. R	E	681	68	10	14	773	987	1,165	1,019	584
	do	W	338	35	5	3	381	491	580	533	337
2	U. S. 99	N	6,351	265	110	110	6,836	8,744	10,324	18,143	4,644
	C. R	E	828	83	14	1	926	1,203	1,420	2,749	744
	U. S. 99	S	6,622	334	140	123	7,219	9,225	10,892	19,080	4,861
	C. R	W	770	85	15	3	873	1,131	1,335	3,681	603
3	U. S. 10	N	7,720	554	190	80	8,544	11,003	12,992	19,418	5,970
	do	E	8,422	558	192	86	9,258	11,924	14,079	19,787	6,551
	Wash. 5	S	3,968	318	90	11	4,387	5,689	6,717	11,922	3,739
4	U. S. 99	N	6,871	272	90	43	7,276	9,403	11,103	15,738	5,442
	do	S	7,551	319	105	72	8,047	10,368	12,242	19,679	5,946
	C. R	W	1,690	87	10	37	1,824	2,323	2,743	5,313	1,280
5	Wash. 2	W	4,108	345	89	54	4,596	5,905	6,972	15,726	2,840
	C. R	N	1,752	110	28	16	1,906	2,457	2,901	7,558	1,281
	Wash. 2	E	3,108	498	129	44	3,779	4,856	5,733	9,382	2,236
6	U. S. 99	N	1,743	127	31	43	1,944	2,471	2,918	3,937	2,168
	do	S	2,540	214	53	47	2,854	3,649	4,309	3,681	2,483
	C. R	NE	939	105	15	4	1,063	1,377	1,626	2,205	600
7	U. S. 99	N. and SE	1,820	127	27	18	1,992	2,566	3,030	4,912	1,473
8	C. R	N	510	58	10	8	586	751	887	924	430
	Wash. 1	W	984	93	20	15	1,112	1,426	1,684	1,825	604
	do	E	884	85	15	11	995	1,279	1,510	1,572	501
9	U. S. 99	N	2,150	123	41	26	2,340	3,008	3,552	4,132	1,865
	do	S	2,506	159	53	40	2,758	3,533	4,172	4,758	2,220
	C. R	W	912	100	24	21	1,057	1,347	1,590	2,507	812
10	Wash. 2	N	723	64	18	5	810	1,047	1,236	3,883	549
	U. S. 10	W	1,880	132	38	14	2,064	2,665	3,147	8,069	1,171
	do	E	1,910	135	39	14	2,098	2,709	3,199	8,203	1,263
11	U. S. 410	NW. and SE	1,092	126	25	10	1,253	1,616	1,908	2,608	1,149
12	do	W	1,756	179	55	68	2,058	2,587	3,055	3,506	1,575
	C. R	NE	778	100	10	38	926	1,154	1,363	1,398	725
	U. S. 410	SE	1,250	121	35	37	1,443	1,828	2,158	2,087	1,136
13	Wash. 12	E. and W	1,426	163	23	7	1,619	2,096	2,474	2,609	1,327
14	U. S. 99	N	2,632	180	60	32	2,904	3,734	4,409	4,983	2,422
	C. R	W	1,138	85	7	36	1,266	1,599	1,888	2,621	990
	U. S. 99	S	3,220	230	70	57	3,577	4,576	5,403	6,911	2,617
15	U. S. 830	E. and W	2,576	180	40	20	2,816	3,635	4,292	4,561	2,103

TABLE 37.—*Motor-vehicle traffic in 1930 and forecast of future traffic at survey stations*—Continued

WASHINGTON—Continued

Station No.	Route No.	Direction from station	Average daily density—1930					Forecast		Maximum daily vehicles, 1930	Winter average, 1930
			Passenger cars	Trucks under 3 tons	Trucks 3 tons and over	Busses	Total motor vehicles	1935	1940		
16	U. S. 99 U. S. 830	N. and S	4,004	359	81	64	4,508	5,777	6,822	8,005	3,944
17	U. S. 99	N	2,259	157	59	58	2,533	3,218	3,799	4,400	1,718
	do	S	2,058	126	47	54	2,285	2,900	3,425	3,908	1,618
	Wash. 5	E	535	64	20	8	627	805	950	1,126	522
18	U. S. 99	N	2,680	204	42	57	2,983	3,804	4,491	6,896	2,168
	do	S	3,232	251	52	63	3,598	4,596	5,426	8,761	2,438
	Wash. 9	W	896	87	10	12	1,005	1,291	1,524	1,930	787
19	U. S. 101	N	656	65	12	7	740	953	1,125	1,428	635
	do	S	1,382	125	23	11	1,541	1,989	2,349	3,604	1,051
	C. R	W	891	88	10	7	996	1,286	1,518	2,192	793
20	U. S. 410	W	2,767	239	49	26	3,081	3,972	4,689	5,494	2,278
	do	E	2,116	179	37	19	2,351	3,032	3,580	4,069	1,778
	Wash. 9	S	840	105	13	9	967	1,245	1,471	1,604	780
21	U. S. 101	N	865	82	14	10	971	1,249	1,475	1,826	694
	do	S	878	77	13	7	975	1,258	1,486	1,871	681
	Wash. 14	E	458	38	7	8	511	654	772	1,082	339
	do	W	1,656	294	32	34	2,016	2,577	3,042	3,052	1,721
22	do	E	1,093	179	19	28	1,319	1,678	1,982	1,747	1,339
	do	S	856	168	18	11	1,053	1,355	1,599	1,679	908
	do	E	1,958	166	26	18	2,168	2,795	3,300	3,891	1,475
23	do	W	1,116	92	15	13	1,236	1,590	1,877	2,362	1,041
	do	S	1,396	136	22	11	1,565	2,020	2,385	2,354	1,163
	U. S. 410	W	1,324	93	27	17	1,461	1,877	2,217	3,033	1,406
24	do	E	2,404	170	48	25	2,647	3,409	4,025	6,062	2,178
	U. S. 101	N	1,430	114	32	13	1,589	2,049	2,419	3,586	1,454
	U. S. 410 and 97	N	3,166	386	130	15	3,697	4,566	5,239	5,620	3,181
25	do	S	1,980	189	63	8	2,240	2,768	3,176	3,168	1,866
	C. R	W	1,221	204	60	7	1,492	1,841	2,113	2,438	1,330
	U. S. 410	N	1,086	126	35	11	1,258	1,546	1,774	1,877	995
26	do	E	779	87	25	7	898	1,105	1,268	1,337	669
	C. R	S	528	70	16	4	618	761	874	1,034	477
27	Wash. 11	N. and S	527	90	12	10	639	780	895	1,043	421
28	U. S. 410	E. and W	552	86	10	7	655	804	922	1,063	608
	do	E	1,038	99	15	12	1,164	1,428	1,639	2,876	808
29	do	W	1,056	114	20	12	1,202	1,476	1,693	1,904	818
	C. R	SE	257	39	4	(x)	301	372	427	957	136
	U. S. 295	N	217	22	2	5	246	299	343	562	212
30	U. S. 410	W	296	32	4	8	340	412	472	582	316
	do	E	284	31	3	7	325	394	453	474	204
31	do	E. and W	903	167	11	17	1,098	1,340	1,538	1,562	941
32	C. R	N. and S	928	155	10	7	1,100	1,355	1,555	1,719	974
	U. S. 195	NW	758	92	9	11	870	1,065	1,222	1,787	658
33	do	S	481	58	6	8	553	676	776	905	458
	Wash. I. B. H	NE	310	32	3	4	349	428	491	945	207
	U. S. 295	E	576	62	6	6	650	799	916	1,031	579
34	do	W	444	50	4	5	503	618	709	767	470
	C. R	N	164	37	2	(x)	204	252	289	361	161
	U. S. 195	N	889	85	12	17	1,003	1,223	1,403	2,639	656
35	do	S	608	58	8	12	686	836	959	1,717	451
	Wash. I. B. H	E	287	34	5	5	331	404	464	930	237
36	U. S. 195	N. and S	864	118	18	15	1,015	1,240	1,423	1,275	935
37	U. S. 10	E. and W	3,472	412	40	30	3,954	4,866	5,584	9,111	2,761
38	U. S. 195	N. and S	1,364	223	29	8	1,624	2,004	2,300	3,058	1,492
39	U. S. 395	N. and S	1,336	152	25	10	1,523	1,876	2,153	3,486	1,114
	U. S. 10	W	912	83	23	13	1,031	1,262	1,449	2,587	614
40	do	E	1,602	161	45	28	1,836	2,242	2,573	4,528	1,073
	Wash. 11	S	698	77	21	16	812	987	1,133	2,007	462
41	Wash. 22	N. and S	141	44	6	4	195	237	272	245	165
	U. S. 10	W	268	34	4	6	312	379	435	513	230
42	do	N	657	72	8	10	747	914	1,049	1,631	461
	Wash. 7	S	411	41	4	5	461	565	649	1,156	266
	Wash. 4	N	84	34	2	2	122	149	171	239	87
43	U. S. 10	W	175	30	2	5	212	257	295	284	139
	do	E	253	59	5	7	324	393	451	482	214
	Wash. 11	E	410	66	6	9	491	598	686	705	335
44	do	W	366	53	5	9	433	526	603	700	301
	C. R	S	500	52	5	5	562	691	793	1,487	309
	do	N	56	12	----------	1	69	84	97	85	58
45	Wash. 7	W	292	29	3	6	330	402	461	708	151
	do	E	254	20	2	4	280	342	393	662	111
	Wash. 10	W	278	26	6	6	316	384	441	741	218
46	Wash. 7	E	333	33	7	6	379	463	531	872	208
	do	S	278	25	6	6	315	383	440	905	178
	U. S. 97	N	1,232	167	51	8	1,458	1,798	2,063	4,737	657
47	C. R	NW	2,353	257	79	1	2,690	3,334	3,826	6,388	1,654
	U. S. 97	S	3,394	412	126	8	3,940	4,876	5,595	10,619	2,212
48	U. S. 410	E. and W	1,276	154	25	2	1,457	1,804	2,070	4,135	939
	C. R	W	341	41	13	4	399	514	606	690	329
101	U. S. 101	N	830	101	33	13	977	1,253	1,480	1,863	677
	do	S	523	67	21	10	621	794	938	1,229	397
	U. S. 101	W	635	71	7	8	721	927	1,094	1,154	519
102	Wash. 9	N	555	51	5	8	619	794	938	1,030	435
	U. S. 101	E	500	57	6	1	564	732	864	1,022	366
103	Wash. 21	N. and S	1,344	183	23	20	1,570	2,015	2,379	2,354	1,185
104	U. S. 101	N. and S	396	71	27	4	498	642	758	1,147	369
	Wash. 5	E	534	57	17	9	617	790	933	1,471	421
105	do	S	363	65	19	5	452	581	686	637	368
	do	W	730	96	28	13	867	1,110	1,311	2,071	609
	U. S. 97	N	263	34	2	8	307	371	425	365	250
106	do	S	115	20	----------	5	140	167	192	232	102
	C. R	W	164	18	----------	2	184	226	259	214	160
	U. S. 10 and 97	N	398	25	3	3	429	528	606	977	106
107	U. S. 97	S	992	58	10	7	1,067	1,314	1,508	2,236	328
	U. S. 10	W	1,120	70	10	7	1,207	1,488	1,708	2,451	366
	U. S. 10 and 97	N	2,212	240	56	7	2,515	3,110	3,569	3,801	2,123
108	Wash. 10	S	2,854	330	76	10	3,270	4,042	4,639	7,496	2,138
	U. S. 10 and 97	W	5,026	562	130	17	5,735	7,090	8,137	11,242	4,196

TABLE 37.—*Motor-vehicle traffic in 1930 and forecast of future traffic at survey stations*—Continued

WASHINGTON—Continued

Station No.	Route No.	Direction from station	Average daily density—1930					Forecast		Maximum daily vehicles, 1930	Winter average, 1930
			Passenger cars	Trucks under 3 tons	Trucks 3 tons and over	Busses	Total motor vehicles	1935	1940		
109	C. R	N	874	115	6	5	1,000	1,234	1,416	2,003	729
	U. S. 10 and 97	S	2,990	328	36	17	3,371	4,159	4,773	7,025	2,102
	do	W	2,606	237	26	15	2,884	3,558	4,083	5,037	1,696
110	U. S. 97	N	470	56	8	11	545	662	760	938	461
	Wash. 4	E	633	101	7	20	761	919	1,054	1,002	681
	U. S. 97	S	356	45	3	9	413	501	575	662	338
111	U. S. 395	N	191	20	4	3	218	267	306	449	143
	do	E	265	44	8	7	324	393	451	548	239
	Wash. 22	S	300	58	7	9	374	453	519	538	298
112	Wash. 6	N	317	48	8	5	378	463	531	599	256
	U. S. 195	E	546	87	15	2	650	804	922	1,132	358
	do	W	732	112	20	6	870	1,071	1,229	1,522	498
113	U. S. 410	E. and W	474	45	8	12	539	653	750	682	417
201	C. R	E. and W	1,304	162	35	16	1,517	1,951	2,304	3,370	1,377
202B	S. R. to Leavenworth	NE	1,004	108	12	4	1,128	1,394	1,599	2,498	(5)
	C. R	NW	203	25	2		230	285	327	427	(5)
	S. R. to Cashmere	SE	887	90	10	4	991	1,224	1,405	2,370	(5)
203	U. S. 10	E. and W	1,069	60	15	10	1,154	1,487	1,756	2,150	(5)
204	U. S. 410	E. and W	696	111	20	(x)	828	1,075	1,269	2,521	677
205	Wash. 5	N	267	84	29	7	387	494	583	1,395	322
	do	E	251	115	13	3	382	493	582	568	316
	do	W	183	38	13	4	238	304	359	481	191
206	U. S. 101	N	238	30	8	3	279	359	424	698	154
	do	S	272	54	8	5	339	434	513	663	215
	C. R	W	130	13	1	2	146	187	221	482	106
207	U. S. 101	N	125	7	1	2	135	173	204	768	84
	U. S. 830	E	99	3		(x)	103	133	157	512	60
	U. S. 101	S	144	5	1	2	152	195	230	920	92
208	U. S. 97	NE	243	36	4	4	287	351	403	848	91
	Wash.—Methow Valley Highway	NW	104	30	3	1	138	170	195	763	49
	U. S. 97	S	197	19	2	2	220	270	310	598	135
209	C. R	E	124	41	3	8	176	208	239	332	142
	Wash. 4	W	200	53	4	7	264	319	366	458	180
	do	S	132	41	3	6	182	218	250	395	163
210	U. S. 97	N	126	21		1	148	182	209	270	82
	C. R	E	127	20		3	150	182	209	272	90
211	U. S. 97	S	230	40	3	4	277	339	388	327	139
212	Wash. 6	N. and S	175	22	2	1	200	247	283	547	111
213	U. S. 395	N. and S	64	6		2	72	87	100	273	35
214	U. S. 97	N. and S	92	7		(x)	94	115	132	290	83
214A	U. S. 99	N. and S	725	11		13	749	957	1,130	2,090	484
215	Road to U. S. 99	N. and S	157	10		3	170	217	256	843	91
216	U. S. 99	N. and S	4,994	322	62	122	5,500	6,991	8,255	7,940	3,992
	Wash. 5	N. and S	3,535	360	115	20	4,030	5,213	6,155	10,920	3,040
217	U. S. 830	E	327	7		4	338	434	513	738	290
	do	W	256	11		3	270	347	410	797	216
	Bridge to Oreg	S	202	6		3	211	270	319	717	141
218	U. S. 395	N. and S	438	44	8	5	495	608	697	855	397
219	C. R	N	48	7		(x)	56	68	78	137	19
	U. S. 10	E	159	29	2	3	193	236	270	700	69
	do	W	163	21	1	3	188	229	263	634	68
220	Wash. 11	N	175	27	3	5	210	254	292	412	111
	do	S	128	21	2	5	156	187	215	332	75
	C. R	E	60	24	1	1	86	105	121	131	71
	do	NE	53	18	1	(x)	73	89	102	130	39
221	U. S. 410	E	358	43	5	5	411	503	578	840	300
	do	W	345	52	6	5	408	500	573	968	237
222	U. S. 99	W	1,555	89	21	23	1,688	2,165	2,556	3,752	1,527
	do	S	1,511	70	17	20	1,618	2,077	2,453	3,750	1,527
	C. R	E	224	20	1	(x)	247	320	378	692	(5)
223	U. S. 99	N	5,443	197	65	37	5,742	7,417	8,757	11,700	3,282
	do	S	5,975	170	45	31	6,221	8,047	9,502	15,850	2,808
	C. R	SE	2,507	73	12	9	2,601	3,370	3,979	5,360	1,664
224	U. S. 99	NW	1,591	92	20	21	1,724	2,214	2,614	5,200	995
	C. R	NE	459	64	10		533	693	818	1,015	386
	U. S. 99	S	1,406	94	23	21	1,544	1,980	2,338	4,180	909
225	Wash. 12	NW	724	72	6	5	807	1,043	1,231	1,242	595
	C. R	NE	375	72	4	2	453	586	692	935	405
	Wash. 12	SE	783	62	8	5	858	1,109	1,309	1,485	629
226	U. S. 10	E	632	90	10	8	740	908	1,042	1,474	311
	do	W	742	106	12	7	867	1,066	1,224	1,590	338
	C. R	S	84	15	1	(x)	101	124	142	196	66

WYOMING

1A	U. S. 85	N	561	78	6	5	650	856	1,037	997	461
	do	S	754	88	7	14	863	1,127	1,365	1,236	638
	U. S. 30	E	490	45	4	3	542	715	867	1,008	425
	do	W	454	29	2	7	492	644	780	1,063	331
1B	Wyo. 40	SW	216	18	2	(x)	237	313	379	478	155
	U. S. 30	E	647	43	4	7	701	921	1,116	1,618	436
	do	N	777	48	4	6	835	1,072	1,281	1,557	476
2A	U. S. 285	S	648	41	3	(x)	693	895	1,069	1,477	414
	U. S. 30	E	950	40	3	7	1,000	1,284	1,534	1,736	578
	Wyo. 70	SW	372	43	4	1	420	542	647	695	322
2B	C. R	W	292	38	2	(x)	333	429	513	563	268
	Wyo. 70	E	605	71	7	2	685	883	1,055	1,212	482
	U. S. 30	E	273	12	1	4	290	370	442	464	119
3	Wyo. 70	S	85	12	1		98	127	151	231	69
	U. S. 30	W	332	20	2	4	358	438	547	603	167
	U. S. 87	N	184	23	2	3	212	270	323	366	154
4	U. S. 30	E	987	43	3	9	1,042	1,336	1,596	1,683	763
	do	W	438	26	2	6	472	603	720	795	252
	U. S. 87E	NE	76	7	1	3	87	109	130	135	57
5	U. S. 87	S	102	11	1	3	117	147	176	194	68
	U. S. 87W	NW	36	6		(x)	43	54	65	91	22

[5] No record.

TABLE 37.—*Motor-vehicle traffic in 1930 and forecast of future traffic at survey stations*—Continued

WYOMING—Continued

Station No.	Route No.	Direction from station	Average daily density—1930					Forecast		Maximum daily vehicles, 1930	Winter average, 1930
			Passenger cars	Trucks under 3 tons	Trucks 3 tons and over	Busses	Total motor vehicles	1935	1940		
6	U. S. 87E	N	714	81	6	6	807	1,036	1,238	1,175	619
	U. S. 20	E	1,654	152	14	4	1,824	2,353	2,812	2,269	1,451
	U. S. 87E	SW	518	71	3	4	596	765	915	913	445
	U. S. 20	W	676	74	7	2	759	979	1,170	1,123	618
7	U. S. 185	S	184	13	1	2	200	256	306	325	117
	U. S. 20	E	120	11	1	(x)	133	171	204	312	79
	do	W	240	20	2	2	264	339	405	482	156
8	U. S. 185	N	205	17	1	2	225	296	359	390	144
	U. S. 26	E	57	6			63	84	101	128	42
	U. S. 185	S	172	15	1	2	190	249	302	288	121
9	do	N	283	28	2	3	316	415	503	563	203
	do	S	230	20	2		252	334	405	478	141
	Wyo. 26	W	62	14		2	78	101	122	126	71
10	U. S. 85	N	199	51	3	3	256	336	407	342	215
	U. S. 26	E	502	126	10	3	641	847	1,026	889	585
	do	W	342	80	5	4	431	567	687	649	360
11	U. S. 85	S	1,402	493	10	9	1,914	2,528	3,063	2,256	2,110
	U. S. 26	W	816	234	10	10	1,070	1,407	1,704	1,462	1,094
	do	E	446	96	5	2	549	726	880	852	527
12	U. S. 185	N	258	24	2	2	286	377	457	524	163
	U. S. 85	NE	165	20	4	1	190	251	304	358	117
	do	S	408	42	6	4	460	605	733	792	279
13A	U. S. 20	W	299	25	1	(x)	326	420	502	474	244
	U. S. 85	S	148	20	1	(x)	170	219	261	221	124
	do	N	149	12		(x)	162	208	249	240	104
13B	U. S. 20	E	139	8	1		148	191	229	231	99
	do	W	281	20	2	(x)	304	392	468	533	157
	U. S. 20 to Orin	E	366	26	2	3	397	509	609	670	261
14	U. S. 20	W	454	45	5	4	508	652	779	826	325
	C. R	NW	90	20		1	111	142	170	185	90
	U. S. 20 to Douglas	E	454	41	5	5	505	647	773	1,013	263
15	U. S. 87E	N	115	26	2	3	146	185	221	261	91
	do	S	416	56	6	6	484	618	739	949	319
16	do	N	121	20	2	3	146	185	221	236	91
	do	S	114	19	2	3	138	175	209	229	80
17A	do	S	375	47	3	3	428	550	657	589	270
	U. S. 16	W	215	20	2	(x)	238	306	366	608	109
	U. S. 87E	N	390	45	7	3	445	572	683	1,044	278
17B	U. S. 16	NE	200	25		(x)	226	291	348	495	120
	U. S. 87E, and 16	S	494	51	7	3	555	714	853	1,394	232
	U. S. 87E to Ranchester	N	713	72	10	8	803	1,028	1,228	1,258	617
18	U. S. 87E	S	713	76	10	2	801	1,033	1,234	1,406	588
	U. S. 116	SE	232	29	1	(x)	263	339	405	467	171
	U. S. 87E to Sheridan	N	943	103	15	3	1,064	1,372	1,639	2,073	664
	U. S. 116	NW	93	12	1	(x)	107	137	164	236	49
19	U. S. 16	SW	90	12		(x)	103	132	158	186	51
	do	E	170	19	1	(x)	191	246	294	346	89
	do	N	311	43	1	(x)	356	459	548	599	218
20	C. R	S	128	28		(x)	157	252	241	207	129
	U. S. 16	E	310	48	1	(x)	360	464	555	574	244
	Wyo. 216	E	84	17	1	(x)	103	132	158	173	75
21	U. S. 16	N	122	17	1	(x)	141	181	216	276	58
	do	W	184	25	1	(x)	211	271	324	390	116
22	do	E	162	27	1		190	246	294	356	106
	do	W	156	23	1		180	233	278	346	96
23A	U. S. 85	N	154	34	2	(x)	191	246	294	488	92
	Wyo. 216	W	322	53	3	2	380	489	584	663	262
	U. S. 85	S	86	17	1		104	134	161	182	61
23B	C. R	E	82	23	1	(x)	107	137	164	181	55
	U. S. 85	N	158	28	2	(x)	189	243	290	328	99
	do	N	76	10		(x)	87	111	133	168	55
24	do	S	91	11		(x)	103	132	158	228	56
	U. S. 18	E	74	9		(x)	84	107	128	161	52
	U. S. 420	W	182	30	2	3	217	277	331	360	141
25	U. S. 310	N	203	31	2	6	242	305	365	400	151
	do	E	270	35	3	5	313	398	476	483	224
26A	U. S. 420	NE	348	41	2	(x)	392	506	604	929	241
	U. S. 20	W	311	21	1	7	340	431	514	1,070	170
	do	E	272	50	1	(x)	324	418	499	525	279
26B	Wyo. 420	S	108	32			140	181	216	252	134
	U. S. 20	W	393	68	2	(x)	464	599	715	777	421
	U. S. 20 to Basin	E	495	59	3	2	559	720	862	1,167	371
27	U. S. 20	W	118	17	1	(x)	137	176	210	459	103
	U. S. 310	N	83	11			94	121	145	177	58
	U. S. 20 to Greybull	E	214	33	1	(x)	249	321	383	599	169
	U. S. 20	S	393	63	4	1	461	595	711	845	329
28	do	N	369	49	3	2	423	544	650	804	298
	U. S. 16	E	193	31	2	2	228	292	349	613	79
29	U. S. 20	N	635	45	4	2	686	884	1,057	1,183	425
	do	S	368	22	1	4	395	506	604	867	182
	do	N	148	9	1	2	160	204	244	491	90
30	do	E	140	20	2	(x)	163	209	250	477	97
	U. S. 320	SW	169	15	2	2	188	240	287	324	139
	U. S. 87W	NW	222	29	1	(x)	253	326	389	500	178
31	U. S. 320	NE	270	48	2	5	325	414	494	467	247
	U. S. 87W	SW	313	64	3	2	382	491	587	789	267
	do	NE	304	52	3	2	361	464	555	543	287
32	do	SE	263	56	4	2	325	418	499	560	218
	C. R	NW	218	39	3	1	261	336	402	348	150
	U. S. 187 to Jackson	S	70	5		(x)	76	97	116	429	17
33	U. S. 87W	N	74	4		1	79	101	121	508	6
	do	SE	48	11		(x)	60	76	91	344	14
	U. S. 187 to Moran	S	106	14		2	122	155	185	568	
	U. S. 187	N	48	6		(x)	55	70	83	247	27
34	do	E	58	7		(x)	66	84	100	212	38
	Wyo. 287	S	68	7			75	97	116	263	44
	do	N	298	38	4	(x)	341	440	525	775	338
35	U. S. 30N	E	477	40	3	1	523	675	806	1,140	349
	do	W	294	33	3		330	427	510	778	150

TABLE 37.—*Motor-vehicle traffic in 1930 and forecast of future traffic at survey stations*—Continued

WYOMING—Continued

Station No.	Route No.	Direction from station	Average daily density—1930					Forecast		Maximum daily vehicles, 1930	Winter average, 1930
			Passenger cars	Trucks under 3 tons	Trucks 3 tons and over	Busses	Total motor vehicles	1935	1940		
36	U. S. 30N	N	79	9			88	114	136	212	46
	do	E	93	12			105	136	162	261	62
	Wyo. 65	SW	23	5			28	36	43	76	19
37	Wyo. 89	N	18	4		(x)	23	28	34	72	20
	U. S. 30N	S	57	10			67	87	104	194	51
	do	W	68	10			78	101	121	188	56
38	U. S. 30S	E	237	25	2	3	267	341	408	536	145
	do	W	274	35	2	3	314	402	480	658	162
	Wyo. 65	NW	248	23		(x)	272	350	419	492	191
39	U. S. 30N	N	91	12	1	(x)	105	134	161	223	52
	U. S. 30	E	169	17	1	1	188	242	289	530	91
	U. S. 30S	W	122	12	1	1	136	175	209	403	61
40	U. S. 187	N	1,104	182	10	2	1,298	1,676	2,002	2,135	867
	U. S. 30	E	598	59	6	6	669	857	1,024	1,164	437
	do	W	924	122	10	3	1,059	1,365	1,632	1,595	782
41	U. S. 187	N	58	14	1	(x)	74	94	113	293	39
	do	S	85	32	2	(x)	120	154	184	465	81
	C. R	NE	40	22	1	(x)	64	81	97	200	55
42	do	N	100	8		1	109	140	167	271	71
	U. S. 30	E	167	15	1	2	185	237	283	497	86
	do	W	286	21	2	4	313	400	477	637	159

TABLE 38.—*Percentage distribution of trucks by daily mileage*

Mileage group	Arizona	California	Colorado	Idaho	Nebraska	New Mexico	Nevada	Oregon	Utah	Washington	Wyoming	All survey States
Less than 20	7.8	3.9	5.7	7.7	4.7	9.3	12.7	6.3	4.9	5.9	8.2	6.3
20–39	12.6	12.2	16.4	15.5	11.5	13.7	14.3	12.9	12.4	15.5	15.1	13.5
40–59	16.1	16.3	16.1	15.1	13.3	12.6	15.7	15.6	15.3	17.7	16.0	15.5
60–79	12.6	15.3	13.6	12.9	12.7	13.6	16.1	14.0	13.7	14.3	13.1	13.8
80–99	7.4	9.4	7.9	8.5	9.2	9.8	8.6	9.0	11.4	10.5	9.2	9.2
100–119	10.5	11.0	11.3	8.8	10.9	10.2	9.3	9.5	11.0	10.1	10.5	10.3
120–139	7.2	7.3	6.7	6.9	8.5	5.7	6.6	6.7	7.8	6.9	6.7	7.0
140–159	5.8	6.2	6.9	7.6	7.3	6.0	4.4	7.2	5.9	5.5	4.7	6.5
160–179	3.2	3.7	2.9	3.7	5.1	4.2	2.1	3.0	4.9	3.7	3.7	3.6
180–199	2.4	2.0	1.9	3.2	2.5	2.1	1.7	2.3	2.6	1.9	1.9	2.2
200–219	4.7	4.0	3.5	3.2	4.5	4.4	2.3	4.5	4.5	3.6	3.5	4.1
220–239	1.3	1.8	1.3	1.3	1.4	1.5	1.0	1.7	1.4	1.1	1.3	1.5
240–259	2.0	2.3	1.8	1.7	2.9	1.8	2.7	2.2	1.1	1.0	2.0	2.0
260–279	1.2	.8	1.1	.7	.9	1.1	.4	.9	.7	.6	1.4	.9
280–299	.4	.5	.5	.4	.7	.4	.3	.8	.4	.3	.5	.5
300 and over	4.8	3.3	2.4	2.8	3.9	3.6	1.8	3.4	2.0	1.4	2.2	3.1
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

TABLE 39.—*Cumulative percentage distribution of trucks by daily mileage*

Mileage group	Arizona	California	Colorado	Idaho	Nebraska	New Mexico	Nevada	Oregon	Utah	Washington	Wyoming	All survey States
Less then 20	7.8	3.9	5.7	7.7	4.7	9.3	12.7	6.3	4.9	5.9	8.2	6.3
40	20.4	16.1	22.1	23.2	16.2	23.0	27.0	19.2	17.3	21.4	23.3	19.8
60	36.5	32.4	38.2	38.3	29.5	35.6	42.7	34.8	32.6	39.1	39.3	35.3
80	49.1	47.7	51.8	51.2	42.2	49.2	58.8	48.8	46.3	53.4	52.4	49.1
100	56.5	57.1	59.7	59.7	51.4	59.0	67.4	57.8	57.7	63.9	61.6	58.3
120	67.0	68.1	71.0	68.5	62.3	69.2	76.7	67.3	68.7	74.0	72.1	68.6
140	74.2	75.4	77.7	75.4	70.8	74.9	83.3	74.0	76.5	80.9	78.8	75.6
160	80.0	81.6	84.6	83.0	78.1	80.9	87.7	81.2	82.4	86.4	83.5	82.1
180	83.2	85.3	87.5	86.7	83.2	85.1	89.8	84.2	87.3	90.1	87.2	85.7
200	85.6	87.3	89.4	89.9	85.7	87.2	91.5	86.5	89.9	92.0	89.1	87.9
220	90.3	91.3	92.9	93.1	90.2	91.6	93.8	91.0	94.4	95.6	92.6	92.0
240	91.6	93.1	94.2	94.4	91.6	93.1	94.8	92.7	95.8	96.7	93.9	93.5
260	93.6	95.4	96.0	96.1	94.5	94.9	97.5	94.9	96.9	97.7	95.9	95.5
280	94.8	96.2	97.1	96.8	95.4	96.0	97.9	95.8	97.6	98.3	97.3	96.4
300 and over	95.2	96.7	97.6	97.2	96.1	96.4	98.2	96.6	98.0	98.6	97.8	96.9
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

TABLE 40.—*Percentage distribution of local trucks by daily mileage*

Mileage group	Arizona	California	Colorado	Idaho	Nebraska	New Mexico	Nevada	Oregon	Utah	Washington	Wyoming	All survey States
Less than 20	8.7	3.8	6.0	8.7	5.0	11.4	14.6	6.6	5.1	5.9	8.8	6.6
20–39	13.5	12.3	17.4	17.7	12.1	15.4	15.5	13.3	12.7	16.0	16.4	14.2
40–59	17.7	16.2	16.6	16.8	13.6	14.0	17.3	16.2	16.5	18.3	16.8	16.3
60–79	13.5	15.4	13.9	13.5	13.7	14.6	16.8	14.2	14.3	14.6	14.5	14.4
80–99	7.6	9.7	8.1	8.4	9.0	10.4	10.2	9.3	11.8	11.0	9.8	9.4
100–119	11.7	11.3	11.4	8.2	11.1	10.6	8.9	9.7	11.1	10.1	10.3	10.5
120–139	7.3	7.3	6.7	6.8	8.1	5.6	5.9	6.7	7.6	6.8	6.3	6.9
140–159	5.2	6.1	6.9	7.1	7.3	5.1	2.9	7.2	5.7	5.0	4.2	6.2
160–179	2.7	3.7	2.8	3.2	4.9	3.0	2.0	2.9	5.0	3.4	3.5	3.4
180–199	2.0	2.0	1.8	2.2	2.3	1.5	1.0	2.2	2.3	1.7	1.7	2.0
200–219	3.7	3.8	3.2	2.5	4.3	3.3	2.0	4.0	3.7	3.4	3.1	3.6
220–239	.8	1.7	1.0	.9	1.3	1.1	.4	1.5	1.3	1.2	.9	1.3
240–259	1.6	2.3	1.5	1.3	2.8	1.2	1.9	2.0	1.0	.9	1.4	1.8
260–279	.8	.8	.9	.4	.9	.7	.3	.8	.5	.5	1.0	.7
280–299	.3	.5	.3	.2	.5	.1	.0	.7	.3	.2	.4	.4
300 and over	2.9	3.1	1.5	2.1	3.1	2.0	.3	2.7	1.1	1.0	.9	2.3
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

TABLE 41.—*Percentage distribution of foreign trucks by daily mileage*

Mileage groups	Arizona	California	Colorado	Idaho	Nebraska	New Mexico	Nevada	Oregon	Utah	Washington	Wyoming	All survey States
Less than 20	4.3	1.6	3.4	3.4	2.5	2.2	2.9	3.6	6.6	5.5	1.6	3.3
20–39	7.8	4.0	7.1	5.1	6.7	7.9	8.6	10.1	3.6	7.0	7.1	7.6
40–59	7.3	7.3	7.1	7.7	9.8	6.7	9.3	9.9	8.0	7.5	9.8	8.2
60–79	9.1	8.9	9.8	10.1	7.1	8.8	16.5	11.3	8.8	14.0	7.1	9.9
80–99	6.1	2.4	4.1	8.4	8.9	8.8	2.9	5.7	7.3	3.5	6.5	6.6
100–119	6.5	8.1	10.1	9.6	8.9	8.9	10.8	7.9	5.1	10.5	9.2	8.5
120–139	6.5	8.9	6.8	8.7	10.4	5.7	7.2	6.1	11.7	7.0	9.8	7.2
140–159	7.6	8.9	3.4	10.8	8.3	9.8	7.2	7.9	7.3	9.0	7.1	8.3
160–179	5.3	4.0	4.9	6.3	6.4	8.8	2.9	5.0	5.8	9.5	6.0	6.2
180–199	4.5	4.0	2.3	7.2	3.7	3.8	5.8	3.3	8.0	4.0	4.3	4.3
200–219	9.7	13.7	7.5	7.2	6.7	9.3	2.9	8.6	8.0	6.5	9.2	8.4
220–239	3.4	5.7	6.0	2.7	2.5	2.5	4.3	3.0	1.5	2.0	4.3	3.1
240–259	4.6	4.0	6.8	3.4	3.7	4.1	6.5	4.5	1.5	3.5	3.8	4.3
260–279	2.4	1.6	3.4	1.4	.9	2.3	1.4	1.3	3.6	2.0	3.3	2.0
280–299	.6	1.6	4.1	1.7	2.8	1.2	2.2	2.3	2.2	1.0	1.1	1.8
300 and over	14.3	15.3	13.2	6.3	10.7	9.2	8.6	9.5	11.0	7.5	9.8	10.3
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

MAPS

TO ACCOMPANY

Report of a Traffic Survey

ON THE

Federal-Aid Highway System

OF

ELEVEN WESTERN STATES

1930

BY

THE BUREAU OF PUBLIC ROADS

U. S. Department of Agriculture

AND

THE STATE HIGHWAY DEPARTMENTS
OF ELEVEN STATES

U. S. GOVERNMENT PRINTING OFFICE: 1932 88982

WESTERN STATES TRAFFIC SURVEY

TRAFFIC CLASSIFICATION

OF THE

FEDERAL AID SYSTEM

1930-1935-1940

AVERAGE DAILY DENSITY OF MOTOR VEHICLE TRAFFIC ON THE FEDERAL AID SYSTEM OF ELEVEN WESTERN STATES

WITH

DISTRIBUTION OF POPULATION

WASHINGTON

OREGON

CALIFORNIA

NEVADA

IDAHO

MONTANA

WYOMING

UTAH

ARIZONA

COLORADO

NEW MEXICO

NEBRASKA

Portland

Omaha

Denver

TRAFFIC FLOW

AVERAGE DAILY MOTOR VEHICLE TRAFFIC

POPULATION OF CITIES AND TOWNS

Omaha	100,000 and over
Reno	10,000 to 99,999
BOISE	State capitals

FEDERAL RESERVATIONS

POPULATION DENSITY 1930

- 0– 2.9 per square mile
- 3– 9.9 per square mile
- 10–14.9 per square mile
- 15–19.9 per square mile
- 20 or over per square mile

FEDERAL AID HIGHWAY SYSTEM

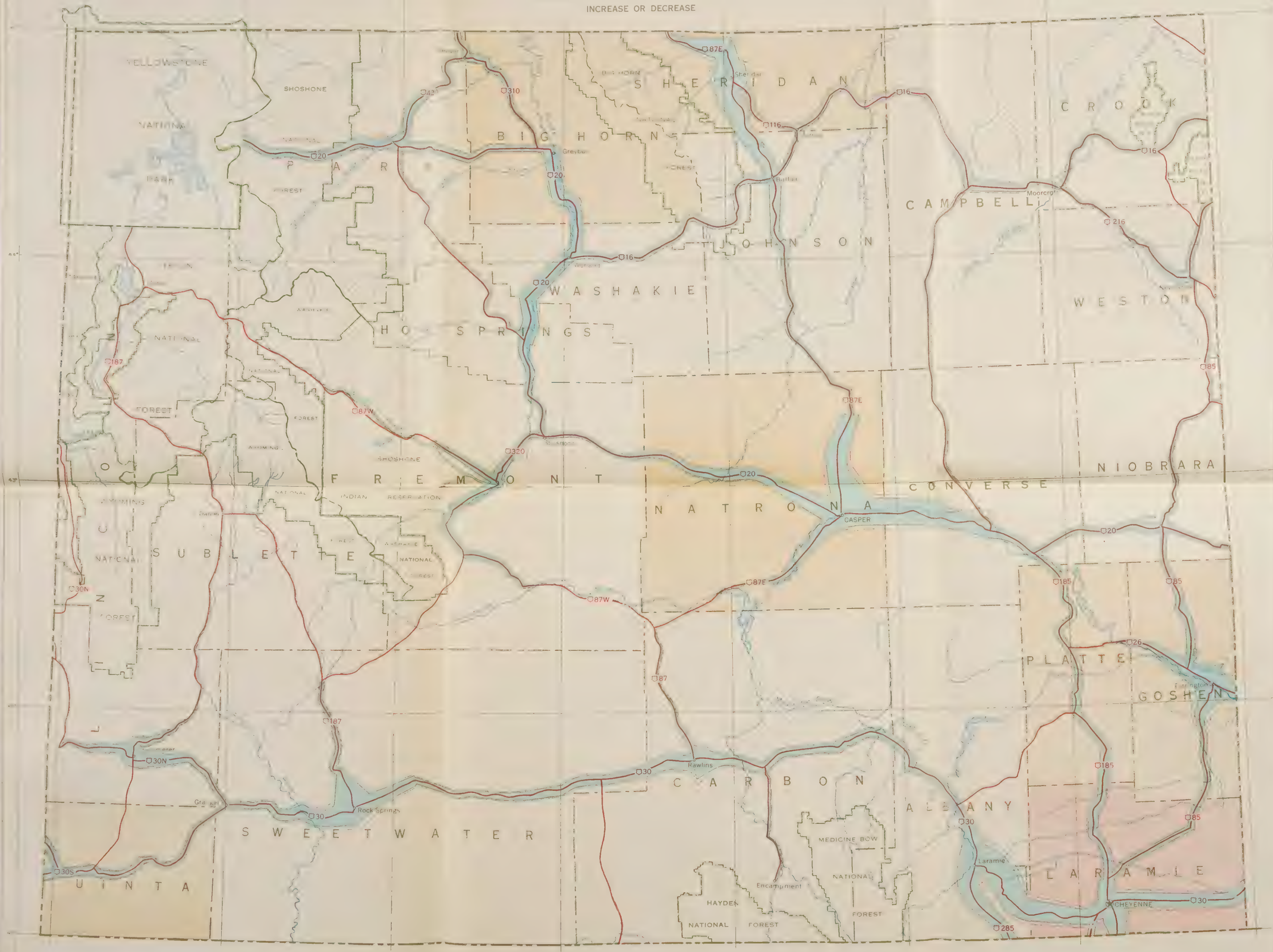
FOREST HIGHWAY NOT ON FEDERAL AID HIGHWAY SYSTEM

STATE HIGHWAYS NOT ON FEDERAL AID HIGHWAY SYSTEM

WYOMING

AVERAGE DAILY DENSITY AND FORECAST OF MOTOR VEHICLE TRAFFIC ON FEDERAL AID HIGHWAY SYSTEM

DISTRIBUTION OF POPULATION AND RATE OF INCREASE OR DECREASE



TRAFFIC FLOW

A. Average daily total of all motor vehicles
H. Highway
F. Forecast of 1935 traffic on same scale as total vehicles

AVERAGE DAILY MOTOR VEHICLE TRAFFIC
(INCLUDING TRUCKS)
0 5 10 15.00 Motor vehicles per day
(1 inch = 2000 vehicles)

SCALE OF MILES
0 18 36 54 MILES

POPULATION DENSITY 1930
- 0– 2.9 per square mile
- 3– 9.9 per square mile
- 10–14.9 per square mile

Traffic below 100 vehicles shown in red by road line with forecast

POPULATION TREND 1920–1930
- Increase 10 per cent or over
- Increase less than 10 per cent
- Decrease 10 per cent or over
- Decrease less than 10 per cent

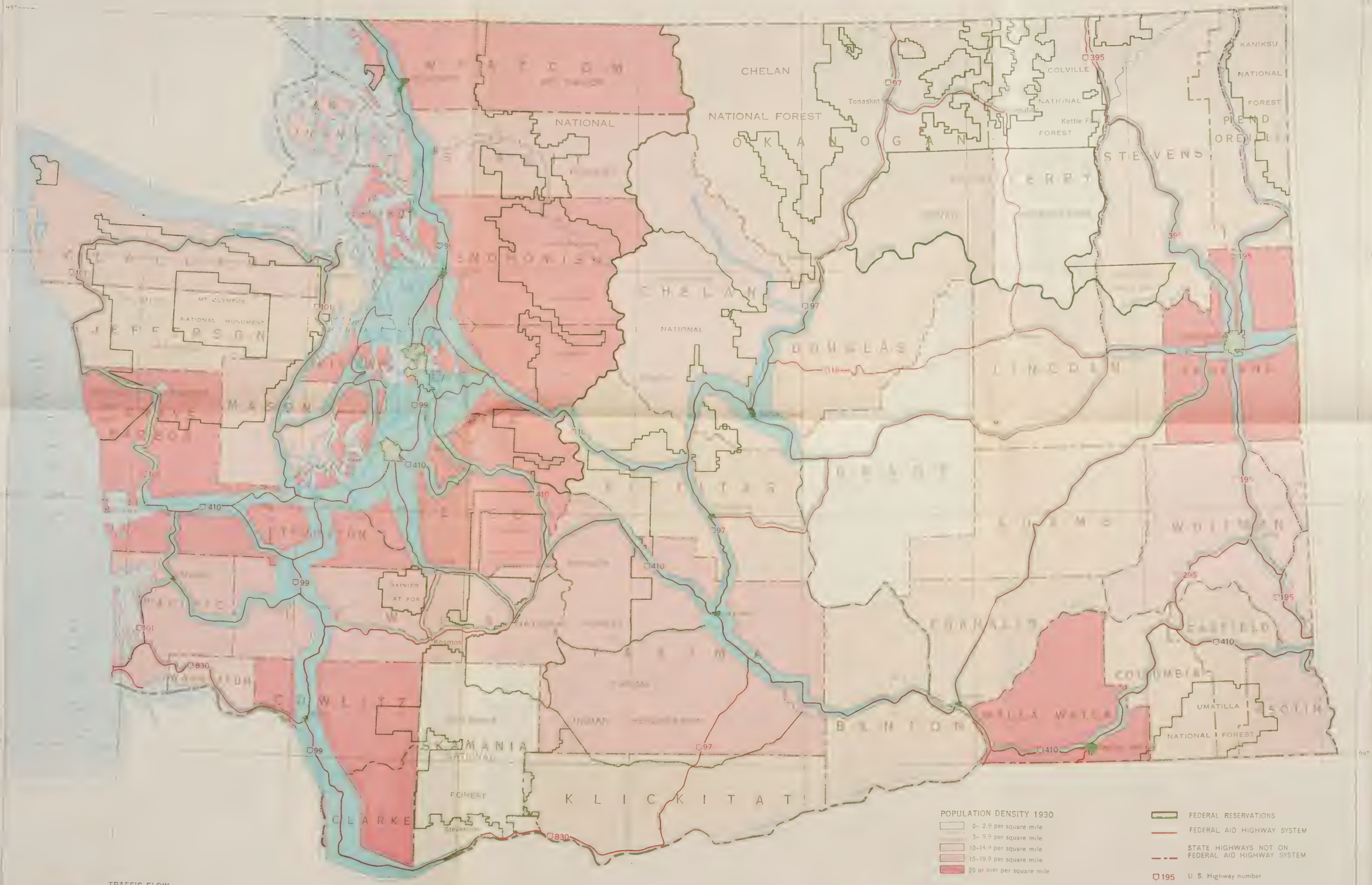
POPULATION OF CITIES AND TOWNS
CHEYENNE 10,000 and over
Rawlins

- FEDERAL RESERVATIONS
- FEDERAL AID HIGHWAY SYSTEM
- STATE HIGHWAYS NOT ON FEDERAL AID HIGHWAY SYSTEM
- 87 U. S. Highway number

WASHINGTON

AVERAGE DAILY DENSITY AND FORECAST OF MOTOR VEHICLE TRAFFIC ON FEDERAL AID HIGHWAY SYSTEM

DISTRIBUTION OF POPULATION AND RATE OF INCREASE OR DECREASE



TRAFFIC FLOW

A. Average daily total of all motor vehicles
H. Highway
F. Forecast of 1935 traffic on same scale as total vehicles

Traffic below 200 vehicles shown in red by road line with forecast

AVERAGE DAILY MOTOR VEHICLE TRAFFIC
(INCLUDING TRUCKS)

0 2 4 6 000 Motor vehicles per day

(1 inch = 8 000 vehicles)

POPULATION OF CITIES AND TOWNS

SEATTLE 100,000 and over
YAKIMA 10,000 to 99,999
Davenport Under 10,000

POPULATION DENSITY 1930

- 0– 2.9 per square mile
- 3– 9.9 per square mile
- 10–14.9 per square mile
- 15–19.9 per square mile
- 20 or over per square mile

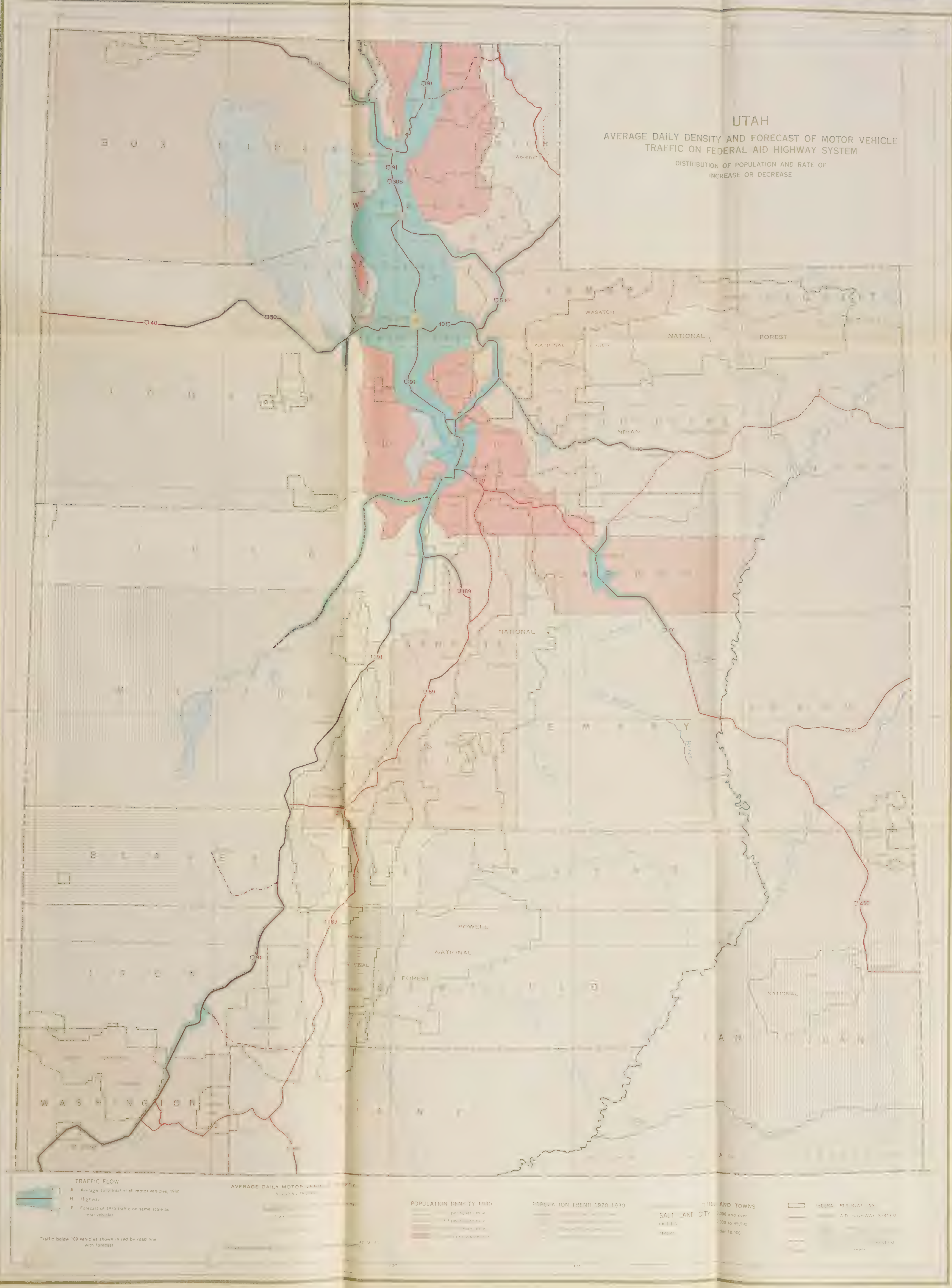
POPULATION TREND 1920-1930

- Increase 10 per cent or over
- Increase less than 10 per cent
- Decrease 10 per cent or over
- Decrease less than 10 per cent

- FEDERAL RESERVATIONS
- FEDERAL AID HIGHWAY SYSTEM
- STATE HIGHWAYS NOT ON FEDERAL AID HIGHWAY SYSTEM
- 195 U. S. Highway number

SCALE OF MILES

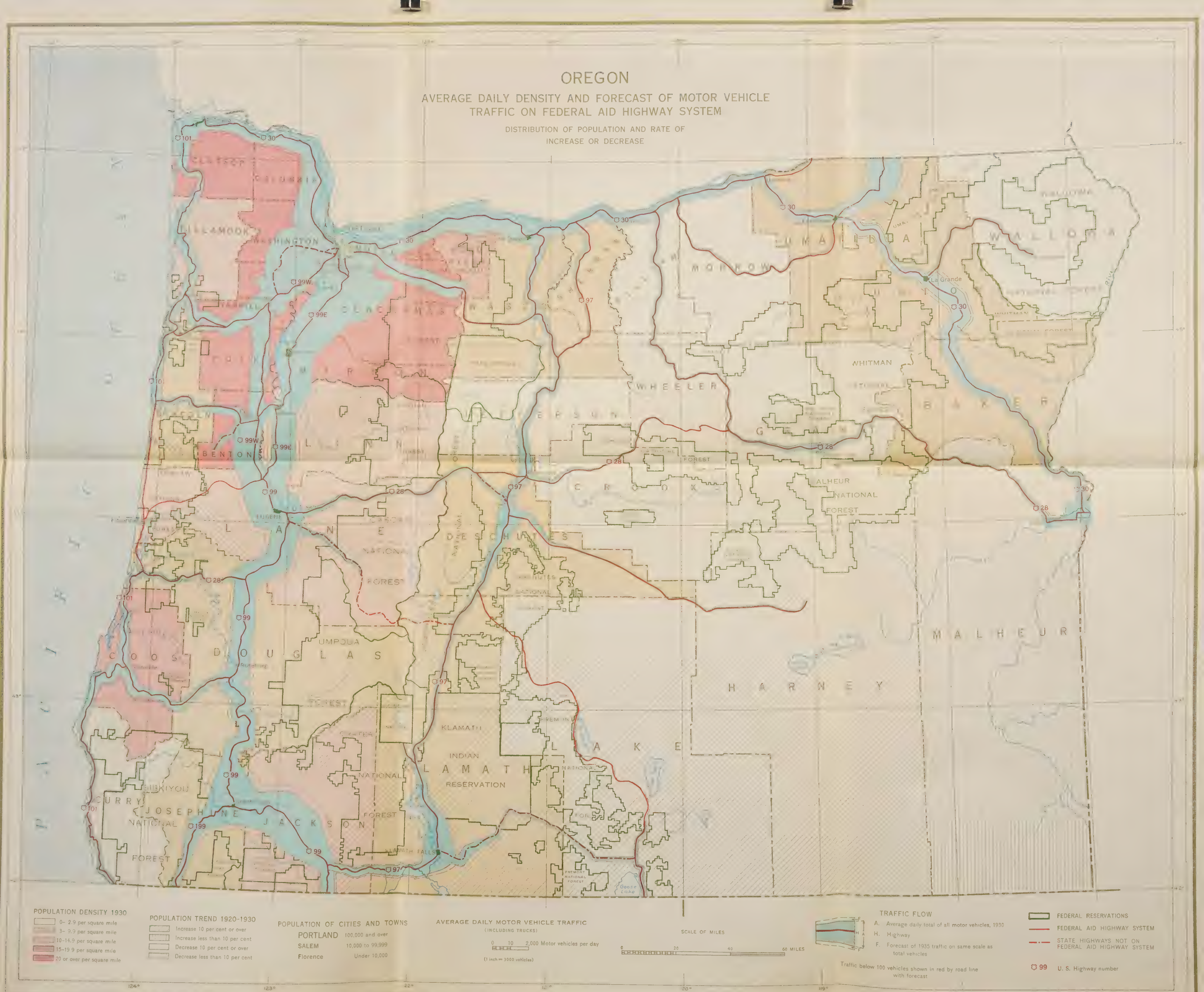
0 18 36 54 MILES


UTAH
AVERAGE DAILY DENSITY AND FORECAST OF MOTOR VEHICLE TRAFFIC ON FEDERAL AID HIGHWAY SYSTEM
DISTRIBUTION OF POPULATION AND RATE OF INCREASE OR DECREASE
WASATCH
NATIONAL
FOREST
INDIAN
EMERY
POWELL
NATIONAL
FOREST
WASHINGTON
TRAFFIC FLOW
A. Average daily total of all motor vehicles, 1930
H. Highway
F. Forecast of 1935 traffic on same scale as total vehicles
Traffic below 100 vehicles shown in red by road line with forecast
AVERAGE DAILY MOTOR VEHICLE TRAFFIC
POPULATION DENSITY 1930
POPULATION TREND 1920 1930
CITIES AND TOWNS
SALT LAKE CITY
Heber
under 10,000
FEDERAL RESERVATIONS

OREGON

AVERAGE DAILY DENSITY AND FORECAST OF MOTOR VEHICLE TRAFFIC ON FEDERAL AID HIGHWAY SYSTEM

DISTRIBUTION OF POPULATION AND RATE OF INCREASE OR DECREASE



POPULATION DENSITY 1930

- 0– 2.9 per square mile
- 3– 9.9 per square mile
- 10–14.9 per square mile
- 15–19.9 per square mile
- 20 or over per square mile

POPULATION TREND 1920–1930

- Increase 10 per cent or over
- Increase less than 10 per cent
- Decrease 10 per cent or over
- Decrease less than 10 per cent

POPULATION OF CITIES AND TOWNS

PORTLAND	100,000 and over
SALEM	10,000 to 99,999
Florence	Under 10,000

AVERAGE DAILY MOTOR VEHICLE TRAFFIC
(INCLUDING TRUCKS)

0 10 2,000 Motor vehicles per day

(1 inch = 3000 vehicles)

SCALE OF MILES

0 20 40 60 MILES

TRAFFIC FLOW

A. Average daily total of all motor vehicles, 1930
H. Highway
F. Forecast of 1935 traffic on same scale as total vehicles

Traffic below 100 vehicles shown in red by road line with forecast

- FEDERAL RESERVATIONS
- FEDERAL AID HIGHWAY SYSTEM
- STATE HIGHWAYS NOT ON FEDERAL AID HIGHWAY SYSTEM
- 99 U. S. Highway number

NEW MEXICO

AVERAGE DAILY DENSITY AND FORECAST OF MOTOR VEHICLE TRAFFIC ON FEDERAL AID HIGHWAY SYSTEM

DISTRIBUTION OF POPULATION AND RATE OF INCREASE OR DECREASE

SOUTHERN UTE INDIAN RESERVATION
NAVAJO INDIAN RESERVATION
SAN JUAN
RIO ARRIBA
TAOS
COLFAX
UNION
MORA
HARDING
MCKINLEY
SANDOVAL
SANTA FE
SAN MIGUEL
VALENCIA
BERNALILLO
TORRANCE
GUADALUPE
QUAY
CURRY
ROOSEVELT
DE BACA
SOCORRO
CATRON
SIERRA
GRANT
LINCOLN
CHAVES
OTERO
EDDY
LEA
LUNA
HIDALGO
Gallup
Las Vegas
Tucumcari
Los Lunas
Quemado
Socorro
San Antonio
Caballo
Tularosa
Deming
Carlsbad
Clovis
Vaughn
Raton
CARSON NATIONAL FOREST
SANTA FE NATIONAL FOREST
APACHE NATIONAL FOREST
MANZANO NATIONAL FOREST
DATIL NATIONAL FOREST
GILA NATIONAL FOREST
LINCOLN NATIONAL FOREST
MESCALERO APACHE INDIAN RESERVATION
CORONADO NATIONAL FOREST
Rio Grande
Pecos River
U 666
U 64
U 485
U 385
U 85
U 54
U 66
U 470
U 70
U 366
U 180
U 80

TRAFFIC FLOW

A. Average daily total of all vehicles
H. Highway
F. Forecast of 1935 traffic on same scale as total vehicles

Traffic below 100 vehicles shown in red by road line with forecast

AVERAGE DAILY MOTOR VEHICLE TRAFFIC
(INCLUDING TRUCKS)

0 5 1,500 M. tor vehicles per day

SCALE OF MILES
0 50 100 150 MILES

POPULATION DENSITY 1930

0 2.9
3 - 5.9
6 - 19.9
20 or over

POPULATION TREND 1920-1930

Increase 10 per cent or over
Increase less than 10 per cent
Decrease 10 per cent or over
Decrease less than 10 per cent

POPULATION OF CITIES AND TOWNS

SANTA FE
Carlsbad

FEDERAL RESERVATIONS
FEDERAL AID HIGHWAY SYSTEM
Not open to motor traffic
County boundary lines
U 366 U. S. Highway number

NEVADA

AVERAGE DAILY DENSITY AND FORECAST OF MOTOR VEHICLE TRAFFIC ON FEDERAL AID HIGHWAY SYSTEM

DISTRIBUTION OF POPULATION AND RATE OF INCREASE OR DECREASE

DUCK VALLEY IND. RES

HUMBOLDT

ELKO

WHITE PINE

LANDER

EUREKA

NYE

CLARK

PYRAMID L

Winnemuc

TOIYABE NATIONAL FOREST

NATIONAL FORES

FOREST

93

40

50

91

TRAFFIC FLOW

A Average daily total of all motor vehicles

H Highway

F Forecast of 1935 traffic on same scale as total vehicles

Traffic below 100 vehicles shown in red by road line with forecast

AVERAGE DAILY MOTOR VEHICLE TRAFFIC

0 5 10 15 00 Motor vehicles per day

1 inch = 2000 vehicles

SCALE OF MILES

POPULATION DENSITY 1930

0– 2.9 per square mile

3– 9.9 per square mile

10 14.9 per square mile

POPULATION TREND 1920-1930

Increase 10 per cent or over

Increase less than 10 per cent

Decrease 10 per cent or over

Decrease less than 10 per cent

POPULATION OF CITIES AND TOWNS

RENO 10,00[illegible] and over

Las Vegas Under 1,00[illegible]

FEDERAL RESERVATIONS

FEDERAL AID HIGHWAY SYSTEM

STATE HIGHWAYS NOT ON FEDERAL AID HIGHWAY SYSTEM

50 U. S. Highway number

NEBRASKA

AVERAGE DAILY DENSITY AND FORECAST OF MOTOR VEHICLE TRAFFIC ON FEDERAL AID HIGHWAY SYSTEM

DISTRIBUTION OF POPULATION AND RATE OF INCREASE OR DECREASE

104° 103° 102° 101° 100° 99° 98° 97° 96° 95°

43° 42° 41° 40°

Harrison
Brush Lake
North Loup River
Calamus
Beaver Lake
Burwell
Neligh
NORFOLK
South Sioux City
BROWN
ANTELOPE
PIERCE
WAYNE
THURSTON
DAKOTA

TRAFFIC FLOW

A Average daily total of all motor vehicles, 1930

H Highway

F Forecast of 1935 traffic on same scale as actual volumes

Traffic below 100 vehicles shown in red by road line with forecast

POPULATION OF CITIES AND TOWNS

OMAHA 100,000 and over

BEATRICE 10,000 to 99,999

Kearney Under 10,000

POPULATION DENSITY 1930

- 0 - 2.9 per square mile
- 3 - 9.9 per square mile
- 10-14.9 per square mile
- 15-19.9 per square mile
- 20 or over per square mile

POPULATION TREND 1920-1930

- Increase 10 per cent or over
- Increase less than 10 per cent
- Decrease 10 per cent or over
- Decrease less than 10 per cent

AVERAGE DAILY MOTOR VEHICLE TRAFFIC

(INCLUDING TRUCKS)

0 10 20 1,000 Motor vehicles per day

(1 inch = 4050 vehicles)

FEDERAL RESERVATIONS

FEDERAL AID HIGHWAY SYSTEM

STATE HIGHWAYS NOT ON FEDERAL AID HIGHWAY SYSTEM

30 U. S. Highway number

SCALE OF MILES

0 16 32 48 MILES

IDAHO

AVERAGE DAILY DENSITY AND FORECAST OF MOTOR VEHICLE TRAFFIC ON FEDERAL AID HIGHWAY SYSTEM

DISTRIBUTION OF POPULATION AND RATE OF INCREASE OR DECREASE

BOUNDARY
BONNER
KOOTENAI
NATIONAL FOREST
Wallace
SHOSHONE
BENEWAH
LATAH
CLEARWATER
CLEARWATER NATIONAL FOREST
LEWIS
NEZPERCE
NATIONAL FOREST
IDAHO
SELWAY
NATIONAL FOREST
SALMON
LEMHI
FOREST
ADAMS
VALLEY
WASHINGTON
PAYETTE
GEM
BOISE
NATIONAL FOREST
CANYON
ADA
EMMORE
CAMAS
BLAINE
BUTTE
NATIONAL FOREST
CLARK
FREMONT
JEFFERSON
MADISON
TETON
BONNEVILLE
LINCOLN
JEROME
MINIDOKA
TWIN FALLS
CASSIA
OWYHEE
DUCK VALLEY INDIAN RES.
POWHATTAN
CARIBOU
ONEIDA
FRANKLIN

TRAFFIC FLOW
A. Average daily total of all motor vehicles
H. Highway
F. Forecast
Traffic below 100 vehicles shown in red by road line with forecast

AVERAGE DAILY MOTOR VEHICLE TRAFFIC
INCLUDING TRUCKS

SCALE OF MILES

POPULATION DENSITY 1930
20 or over per square mile

POPULATION TREND 1920 1930

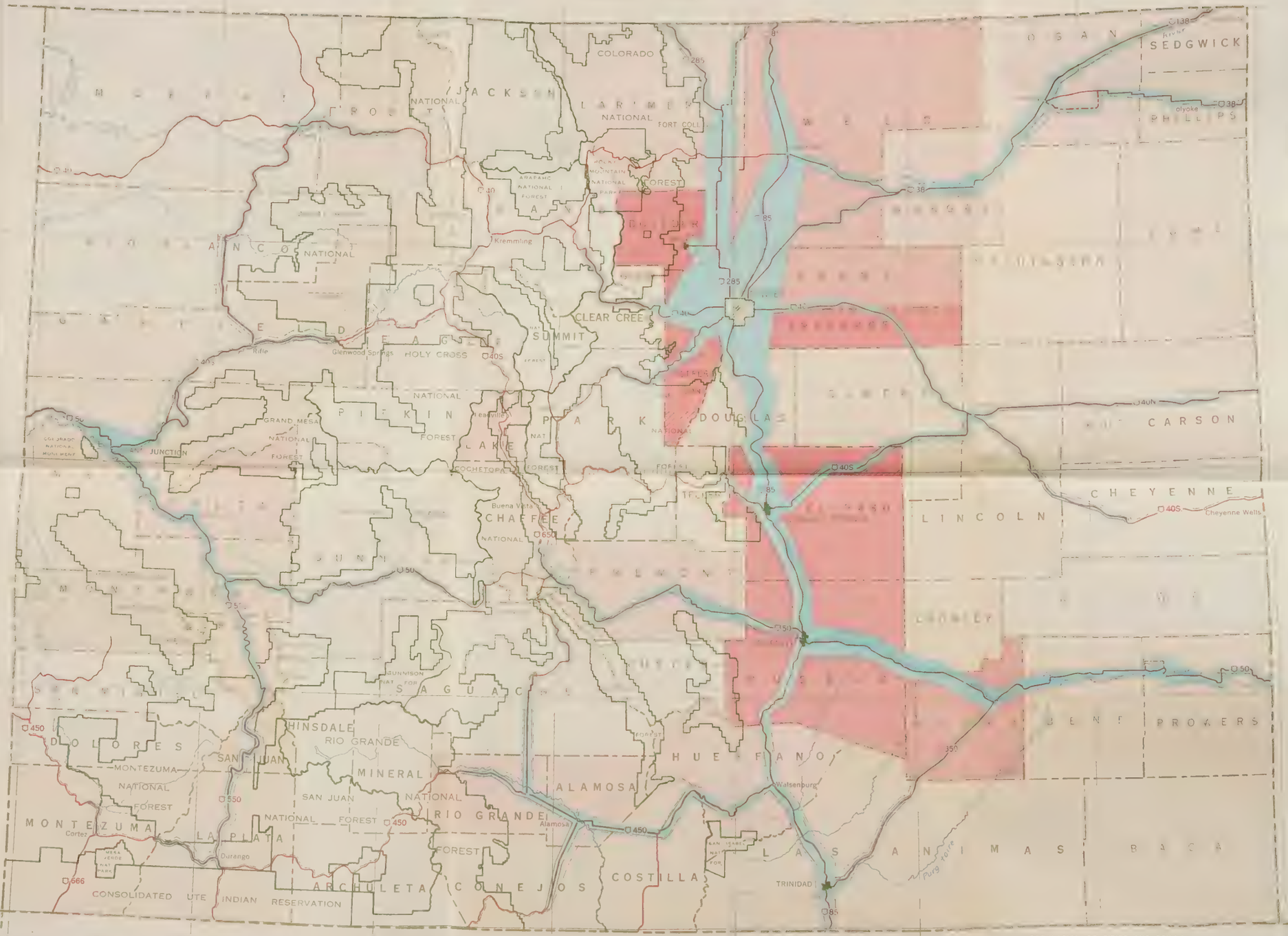
POPULATION OF CITIES AND TOWNS

FEDERAL RESERVATIONS
FEDERAL AID HIGHWAY SYSTEM
STATE HIGHWAYS NOT ON

COLORADO

AVERAGE DAILY DENSITY AND FORECAST OF MOTOR VEHICLE TRAFFIC ON FEDERAL AID HIGHWAY SYSTEM

DISTRIBUTION OF POPULATION AND RATE OF INCREASE OR DECREASE



TRAFFIC FLOW

A Average daily total of all motor vehicles

H Highway

F Forecast of 1935 traffic on same scale as total vehicles

Traffic below 100 vehicles shown in red by road line with forecast

AVERAGE DAILY MOTOR VEHICLE TRAFFIC

(INCLUDING TRUCKS)

0 2.0 4,000 Motor vehicles per day

(1 inch = 5000 vehicles)

SCALE OF MILES

0 18 53 MILES

POPULATION DENSITY 1930

- 0- 2.9 per square mile
- 3- 9.9 per square mile
- 10-14.9 per square mile
- 15-19.9 per square mile
- 20 or over per square mile

POPULATION TREND 1920-1930

- Increase 10 per cent or over
- Increase less than 10 per cent
- Decrease 10 per cent or over
- Decrease less than 10 per cent

POPULATION OF CITIES AND TOWNS

DENVER 50,000 and over

TRINIDAD [illegible]

Sterling [illegible]

- FEDERAL RESERVATIONS
- FEDERAL AID HIGHWAY SYSTEM
- STATE HIGHWAYS NOT ON FEDERAL AID HIGHWAY SYSTEM
- 50 U. S. Highway number

CALIFORNIA

AVERAGE DAILY DENSITY AND FORECAST OF MOTOR VEHICLE TRAFFIC ON FEDERAL AID HIGHWAY SYSTEM

DISTRIBUTION OF POPULATION AND RATE OF INCREASE OR DECREASE

POPULATION DENSITY 1930

- 0- 2.9 per square mile
- 3- 9.9 per square mile
- 10- 14.9 per square mile
- 15-19.9 per square mile
- 20 or over per square mile

POPULATION TREND 1920 1930

- Increase 10 per cent or over
- Increase less than 10 per cent
- Decrease 10 per cent or over
- Decrease less than 10 per cent

POPULATION OF CITIES AND TOWNS

- LOS ANGELES 100,000 and over
- PASADENA 10,000 to 99,999
- Red Bluff Under 10,000

- FEDERAL RESERVATIONS
- FEDERAL AID HIGHWAY SYSTEM
- STATE HIGHWAYS NOT ON FEDERAL AID HIGHWAY SYSTEM

99 U. S. Highway number

TRAFFIC FLOW

A Average daily total of all motor vehicles, 1930

H Highway

F Forecast of 1935 traffic on same scale as total vehicles

Traffic below 200 vehicles shown in red by road line with forecast

AVERAGE DAILY MOTOR VEHICLE TRAFFIC (INCLUDING TRUCKS)

0 5 10,000 Motor vehicles per day

(1 inch = 10,000 vehicles)

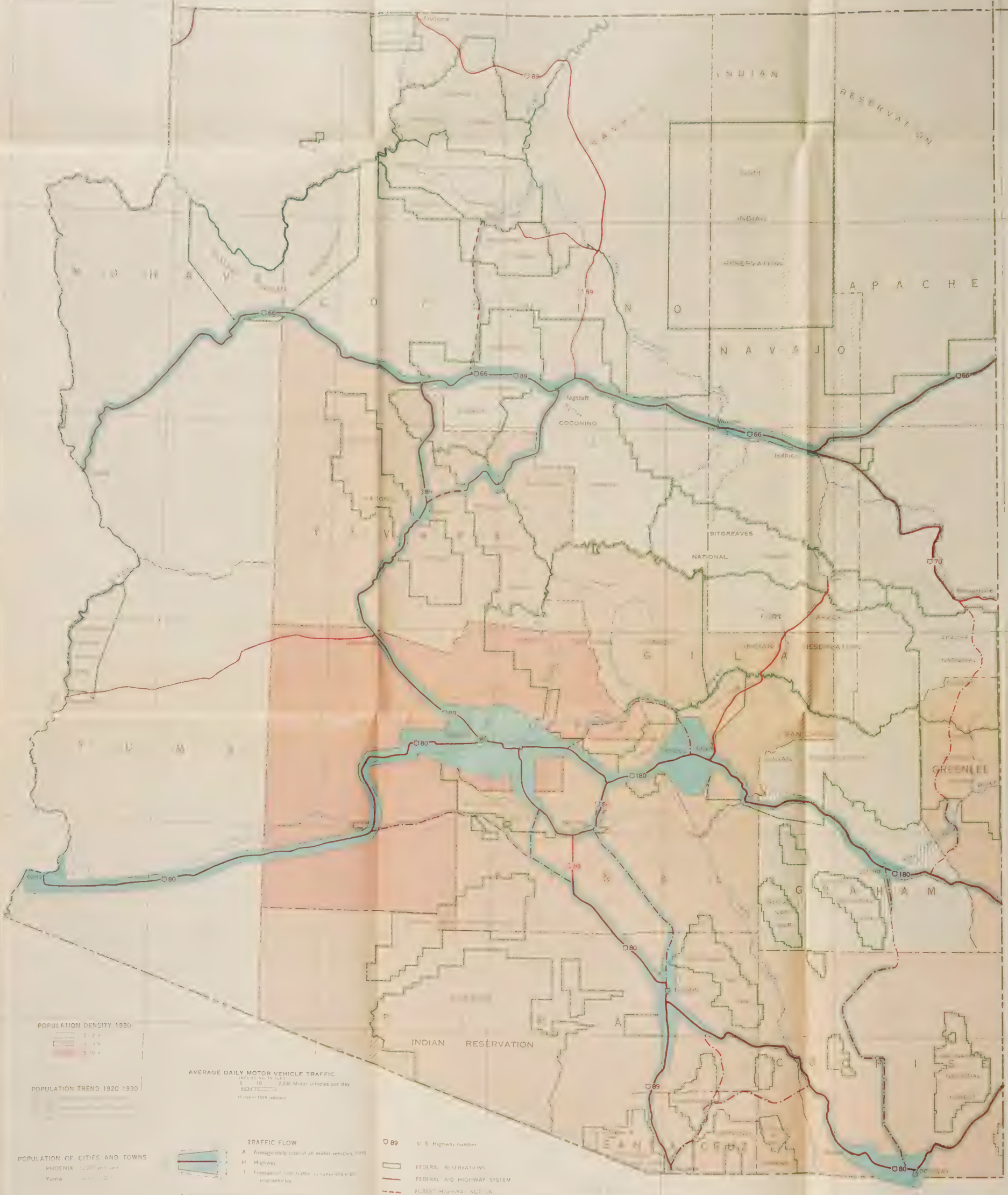
SCALE OF MILES

0 78 MILES

ARIZONA

AVERAGE DAILY DENSITY AND FORECAST OF MOTOR VEHICLE TRAFFIC ON FEDERAL AID HIGHWAY SYSTEM

DISTRIBUTION OF POPULATION AND RATE OF INCREASE OR DECREASE



POPULATION DENSITY 1930

POPULATION TREND 1920 1930

AVERAGE DAILY MOTOR VEHICLE TRAFFIC

INCLUDING TRUCKS

0 10 2,000 Motor vehicles per day

(1 inch = 1000 vehicles)

POPULATION OF CITIES AND TOWNS

PHOENIX

Yuma

TRAFFIC FLOW

A Average daily total of all motor vehicles, both directions

H Highway

F Forecast of total traffic in same scale as total vehicles

Traffic below 100 vehicles shown in red by road line with forecast

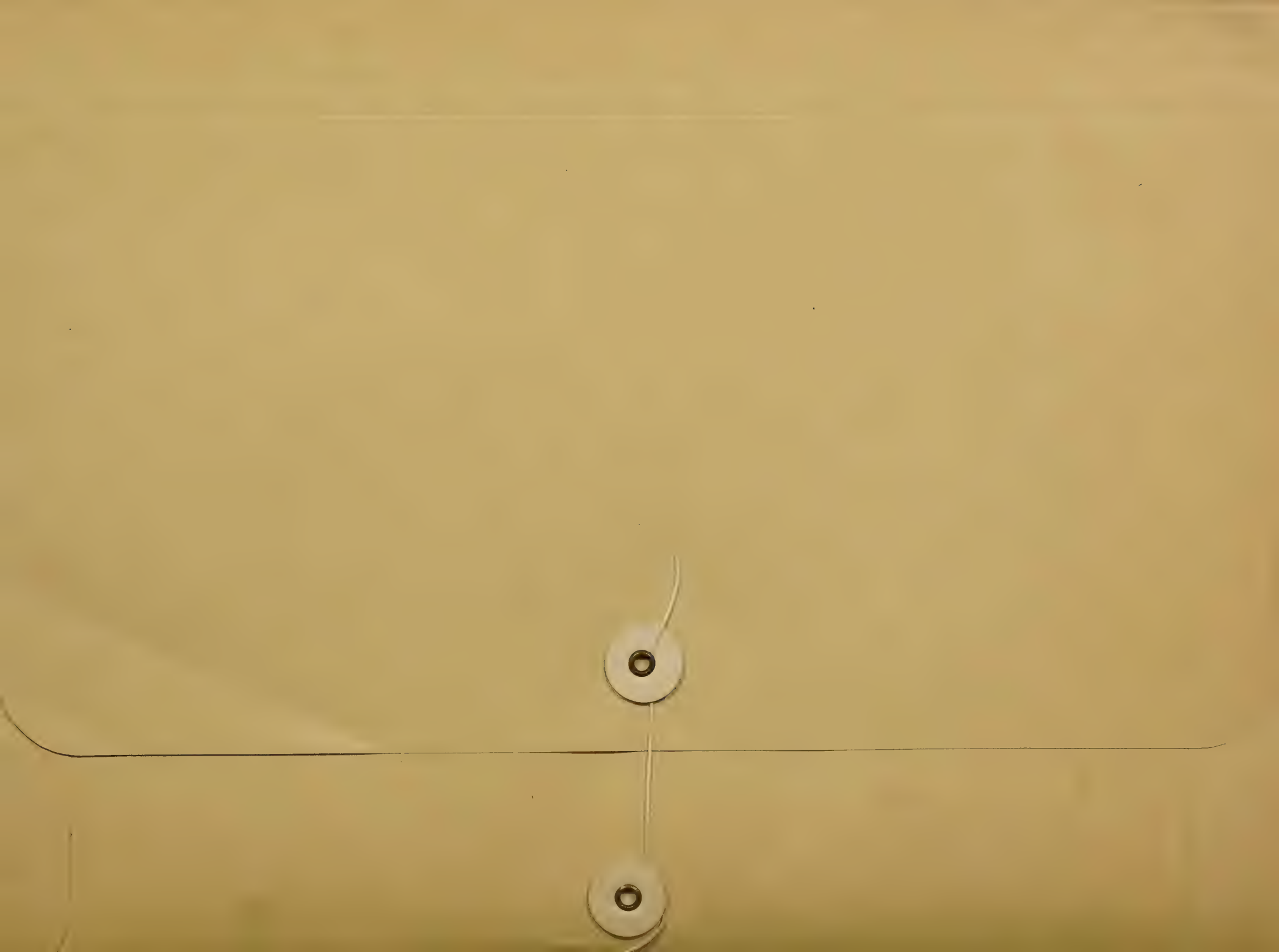
89 U. S. Highway number

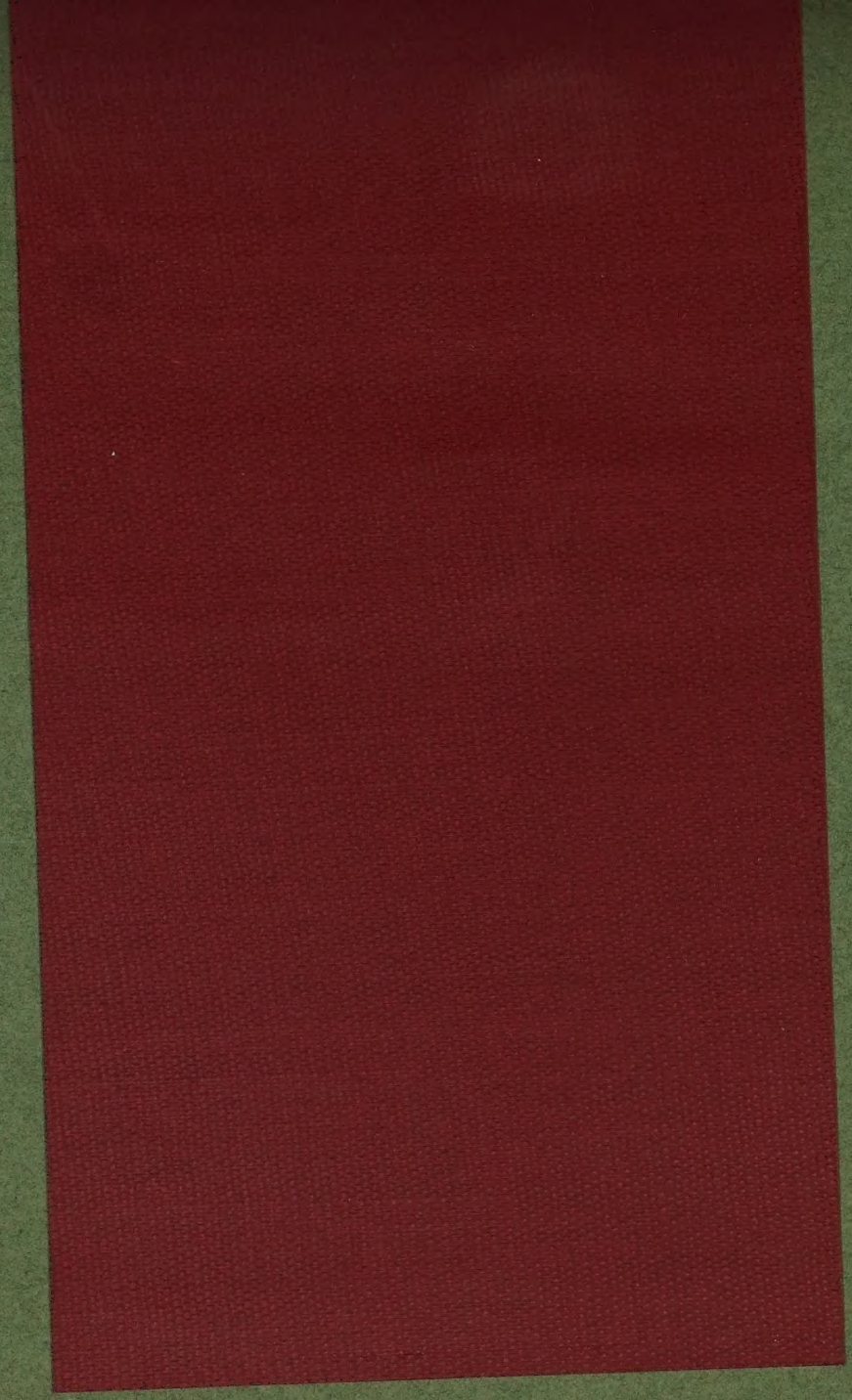
FEDERAL RESERVATIONS

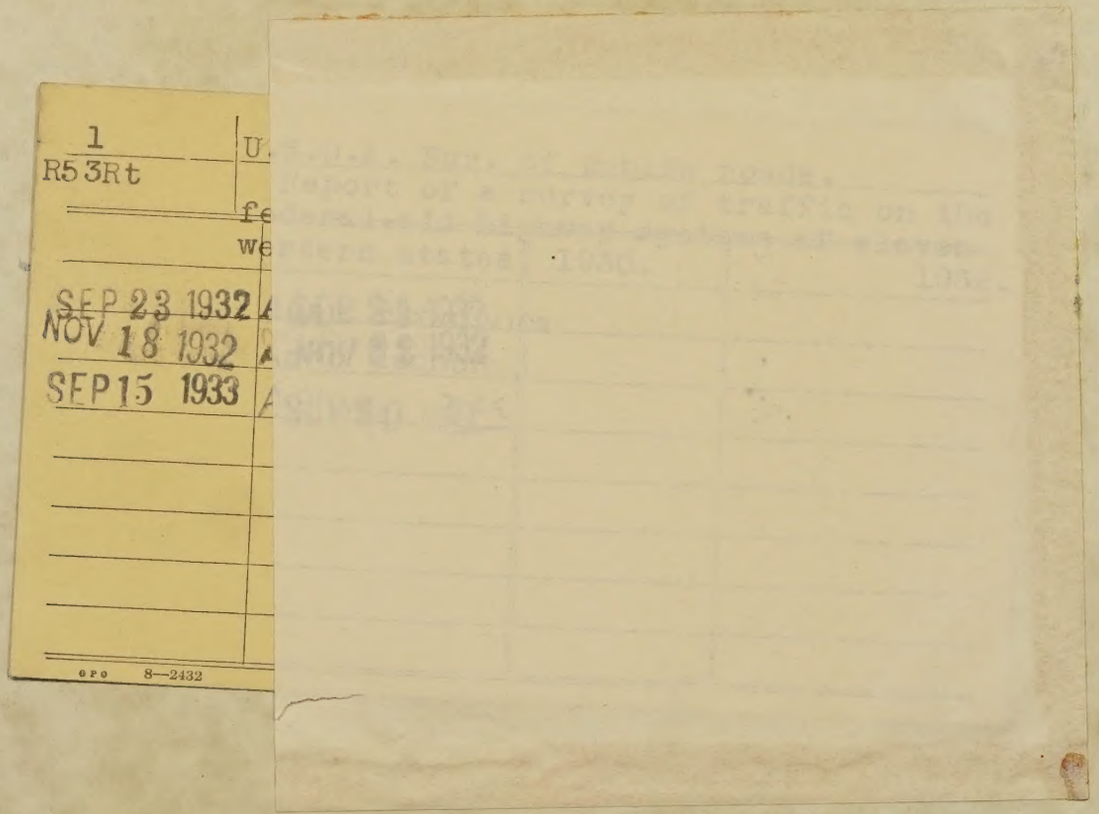
FEDERAL AID HIGHWAY SYSTEM

FOREST HIGHWAY NOT ON FEDERAL AID HIGHWAY SYSTEM

STATE HIGHWAYS NOT ON FEDERAL AID HIGHWAY SYSTEM






1
R53Rt
SEP 23 1932
NOV 18 1932
SEP 15 1933
GPO 8—2432